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Minidoka Project, Idaho-Wyoming  
North Side Pumping Division Extension

HYDROLOGY APPENDIX

July 1985

Copy No. 1

Minidoka Project, Idaho-Wyoming  
North Side Pumping Division Extension

HYDROLOGY APPENDIX

Bureau of Reclamation  
Boise, Idaho  
July 1985



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## HYDROLOGY APPENDIX

### INTRODUCTION

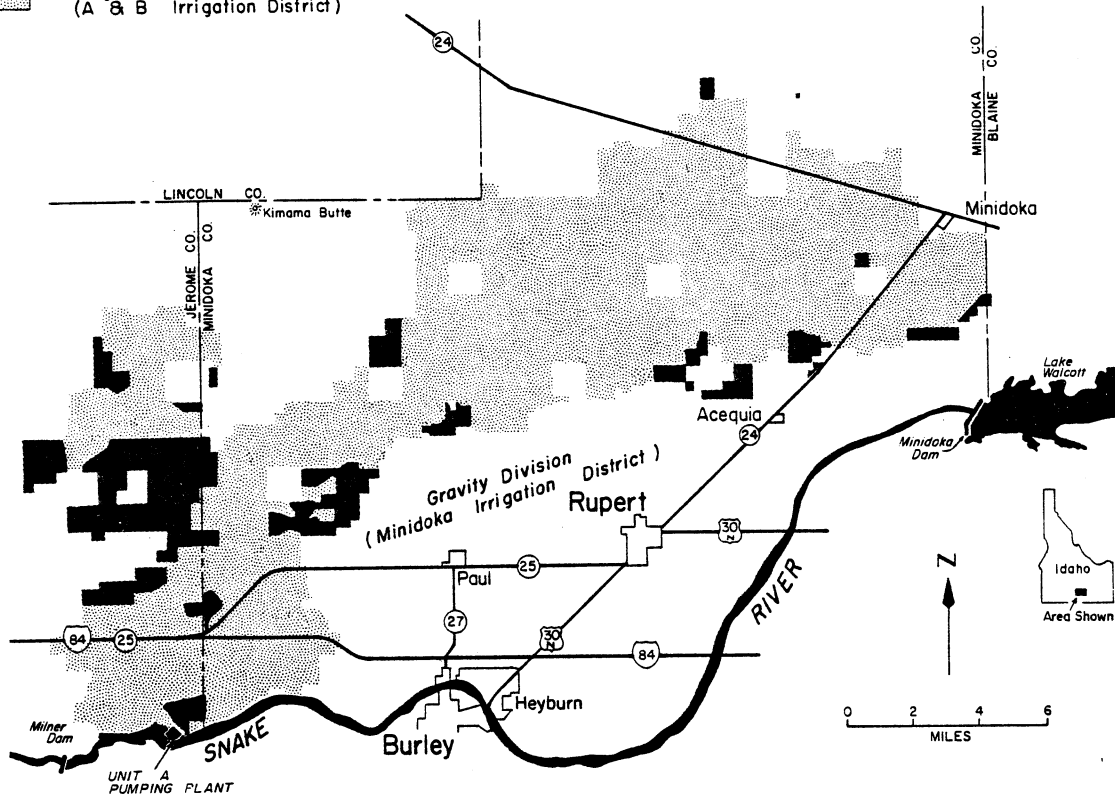
The Minidoka North Side Pumping Division Extension project study is being conducted under the authority of Public Law 92-199, December 15, 1971. The North Side Pumping Division Extension of the Minidoka Project is located on the southern portion of the Snake River Plain and occupies a slightly elevated belt of land to the north and west of the Gravity Division (part of the Minidoka Project) in Minidoka and Jerome Counties (see North Side Pumping Division Extension map). The surface in the general study area is flat to gently rolling, with smooth benches and some small knobs. The elevation of most of the Extension lands are from 4200 to 4300 feet.

The study area is underlain by the Snake Plain aquifer, one of the most productive ground-water aquifers in the world (see Upper Snake River Basin map). The study area is located on the lower portion of the aquifer, which benefits from recharge resulting from surface water diverted to irrigate thousands of acres of lands upstream. Most of the discharge from the lower portion of the aquifer occurs downstream from the study area in the general area of Thousand Springs; more than 4 million acre-feet is discharged in that reach annually.

The potential Extension includes about 13,410 acres of dry Federal land under Reclamation withdrawal and about 3,750 acres of Bureau of Land Management land. For convenience, both the Reclamation withdrawn lands and the Bureau of Land Management lands are referred to as the Extension land in this study.

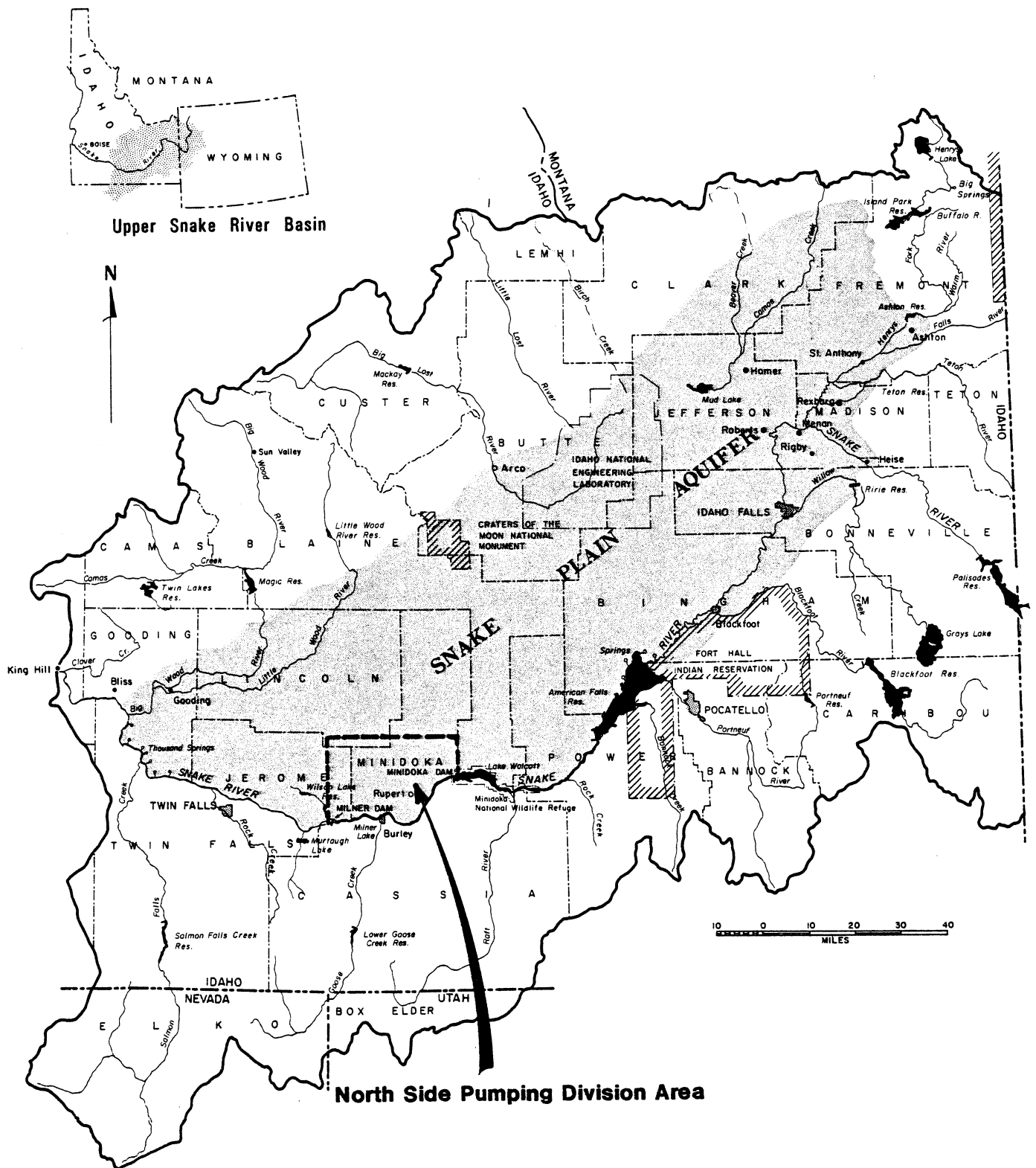
The Recommended Plan proposes to provide a full water supply to about 10,210 acres of land scattered throughout the North Side Pumping Division. This includes 9,400 acres of Extension land and 810 acres to receive a

- Extension Lands
- Existing North Side Pumping Division  
(A & B Irrigation District)



DEC 1983

## North Side Pumping Division Extension



## UPPER SNAKE RIVER BASIN

replacement water supply. The lands are located in 14 separate tracts (see Proposed Land Uses map) and range in size from 10 to more than 5,000 acres. Some of this land was considered for development with the rest of the original North Side Pumping Division, but funding limitations prevented its inclusion in the project at that time. Under the Recommended Plan, tracts 1, 2, 3, and 4 will be served from surface water; tracts 5, 6, 7, 10, 13, 14, 15, and 17 will be served from ground water; and tracts 11 and 12 will be served by a combination of drainage and ground waters. The 810 acres to receive a replacement supply are located in Area 4 and would be irrigated with surface water. Presently, they are irrigated with ground water.

The study also evaluates 29 existing tracts of Federal lands which were set aside in conjunction with the development of the North Side Pumping Division for wildlife management by the Idaho Department of Fish and Game. These tracts, which are located throughout the division, include a total of about 1,020 acres.

The climate of the study area is similar to that of the rest of the southern portion of the Snake River Plain. Precipitation is low, averaging only about 10 inches annually. The growing season precipitation is unpredictable and averages only about 4 inches a year. Half the 4-inch total may be received in 1 month, and little or no rain may fall in other months. Summer temperatures are high, and winters are cold. The growing season for hardy agricultural crops averages 190 days, and the frost-free period averages 130 days.

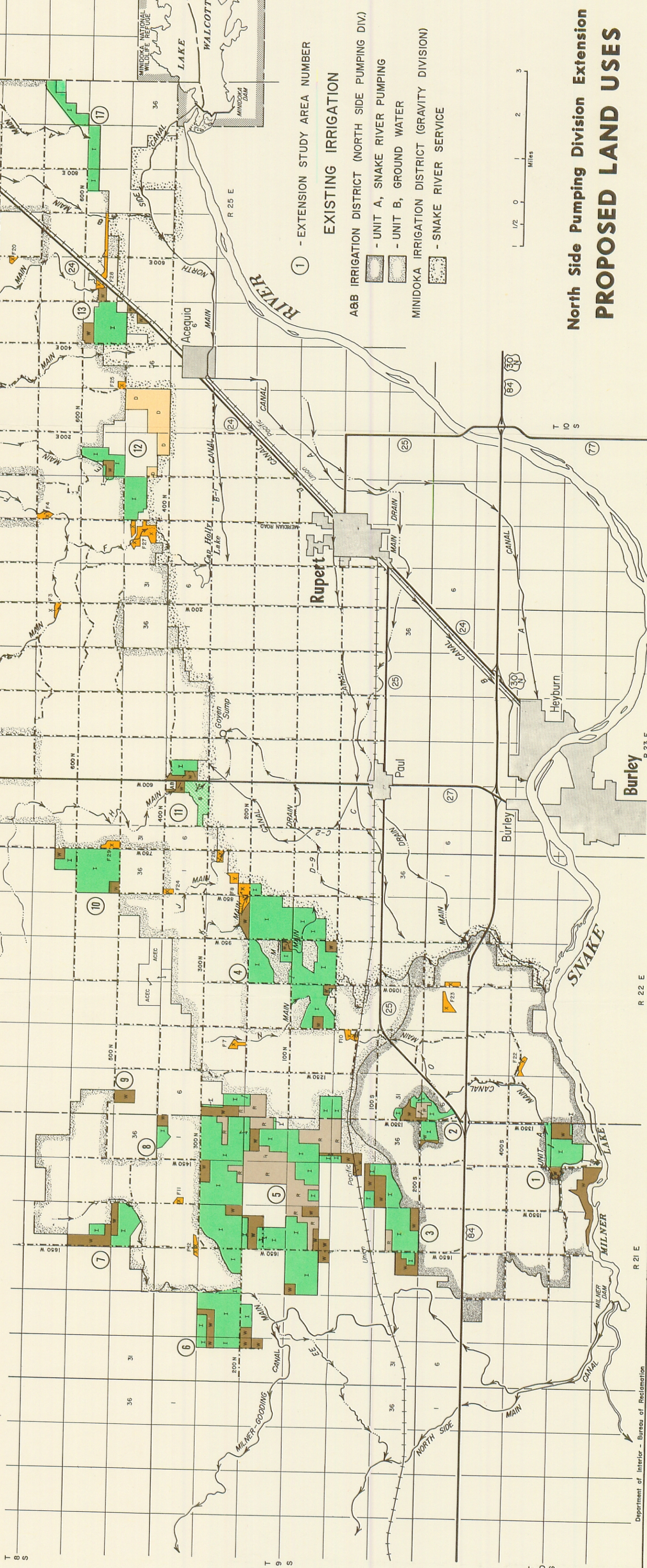
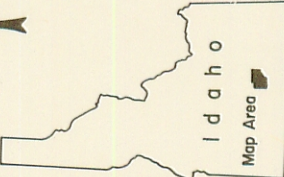
#### EXISTING NORTH SIDE PUMPING DIVISION

The North Side Pumping Division was constructed in the 1950's and irrigates 76,800 acres of land. Surface flows of the Snake River and ground water from the Snake Plain aquifer constitute the sources of irrigation water



ASSIGNED USES  
(MAY 1984)

- I New Irrigation Development
- W Critical Wildlife Habitat Tracts
- R Other Wildlife Areas
- X Existing IDFG Wildlife Tracts
- G Golf Course Site
- AB A&BID Proposed Headquarters Site
- D City of Rupert Sewage Effluent Disposal Area
- ACEC Potential Area of Critical Environmental Concern (ACEC) Retained by BLM



- 1 - EXTENSION STUDY AREA NUMBER
- EXISTING IRRIGATION
- A8B IRRIGATION DISTRICT (NORTH SIDE PUMPING DIV.)
- UNIT A, SNAKE RIVER PUMPING
  - UNIT B, GROUND WATER
- MINIDOKA IRRIGATION DISTRICT (GRAVITY DIVISION)
- SNAKE RIVER SERVICE

North Side Pumping Division Extension  
**PROPOSED LAND USES**



to the project. Unit A is comprised of 14,600 acres of irrigated land and is served from surface water pumped from the back waters of Milner Dam. Ground-water pumping from the Snake Plain aquifer irrigates 62,200 acres in Unit B. The A&B Irrigation District operates and manages the project.

A portion of the water supply for Unit A is provided by storage in American Falls and Palisades Reservoirs. Water for Unit A is pumped from the Snake River by a pumping plant 8 miles west of Burley. The pumping plant delivers water to a canal system serving the Unit A lands.

A total of 177 deep wells provide the ground-water supply for Unit B. The wells are 12 to 24 inches in diameter, average pumping head is about 200 feet, and the average well discharge is about 6.5 cubic feet per second ( $\text{ft}^3/\text{s}$ ). Unit B was the first large-scale ground-water pumping project on the Snake Plain. Since it was built, large acreages have been irrigated from ground water elsewhere on the plain.

A distribution system consisting mainly of unlined ditches was originally used to distribute water in both units. In recent years, many irrigators have converted to sprinkler systems.

The project area lacks a well-defined stream drainage pattern because of its youthful stage of geologic development. As a result, the project area has some enclosed drainage basins--relatively shallow depressions with no natural drainage outlets. Project drainage for runoff and return flows in those areas has been accomplished by the construction of drainage or injection wells which are drilled into highly porous zones of the underlying lava rock.

The irrigation of some of the high quality Extension lands is needed to expand the economic base of the area. Based on public input, plus economic, operational, and social needs of the present farm operators, it has been concluded that the most pressing agricultural need is the addition of small or

moderate amounts of land to existing farms rather than the establishment of new farm units.

Many of the existing farms in the North Side Pumping Division are quite small by present-day standards; average ownership in the A&B Irrigation District is about 135 acres. Because of the small farm sizes, some of the farms in the area are marginal or may be losing money under present conditions. On those farms, the addition of a relatively small amount of new land could mean the difference between economic survival and failure. Further, the layouts of some of the existing farm units do not lend themselves to improved farming methods, such as conversion from gravity irrigation to the more efficient types of sprinkler irrigation. In a number of cases, the acquisition of a relatively small acreage of Extension land could permit the conversion to more efficient farm practices.

## CHAPTER 1--WATER RESOURCES

The water supply can be categorized by the source--surface water or ground water. To avoid confusion, the water supply discussion was divided into two sections--surface water and ground water. The surface-water discussion follows, and the lands served from ground water will be discussed in the following chapter entitled "Ground-water Resources."

### Surface-water Supply--North Side Pumping Division

Sources of surface water available to the North Side Pumping Division include Snake River flows, Snake River storage, the "rental pool," and surface drainage water. The United States holds a Snake River natural flow right of 267 ft<sup>3</sup>/s (priority date April 1, 1939) in trust for the A&B Irrigation District. In addition, the district has secured storage water in two of the

seven Reclamation upper Snake River reservoirs. The priority dates and storage space in the two reservoirs are shown in table 1.

Table 1.--Priority Dates and Storage Space

Reservoir	Priority Date	Storage Space acre-feet
American Falls	3/30/21	46,826 <sup>1/</sup>
Palisades	7/28/39	<u>90,800</u>
Total storage space		137,626

<sup>1/</sup> Reduced from 47,593 acre-feet in 1978 due to sediment deposit

During the 1973 through 1977 period, American Falls storage was restricted to 66.2 percent of capacity due to dam safety considerations and reconstruction of the facility. Accordingly, the district's storage capacity was limited to 31,495 acre-feet during this 5-year period. Further, the district's American Falls storage right was 47,593 acre-feet prior to 1973; however, subsequent to reconstruction (1978), each shareholder's capacity was revised to reflect the reduction in American Falls capacity due to sediment deposits.

#### Surface Water--Snake River

The irrigated area served from the Snake River diversions and its tributaries at and above Milner Dam exceed 1 million acres. Diversions to these lands range from 4 acre-feet per acre or less on pumping projects to 15 acre-feet per acre in areas where subirrigation is practiced. A substantial amount of the diverted water returns to the river, however, and is reused during the same season or is stored in American Falls Reservoir during the winter for irrigation use during the following season.

Historic records indicate the surface-water resources serving the irrigated area above Milner Dam are highly developed. Under present development, the Snake River flow would have been fully controlled and utilized for irrigation except releases required to meet established water rights below Milner Dam during the drought period from 1931 to 1935. The opportunities for expanding the lands irrigated from this source are limited without additional storage in the system.

During periods of below average runoff, the natural flow in the Snake River has been entirely appropriated. During these periods, the district's surface-water right priority date does not allow them to divert natural flow to Unit A. However, in periods of average to above average runoff the district diverts natural flow to Unit A, and records maintained by the district indicate that diversions during these periods can meet all of the Unit A irrigation demands through June and, in very wet periods, the early part of July. The use of natural flow whenever available insures the project's carryover storage will be at a maximum level when entering a dry cycle.

The irrigation of Unit A land with Snake River water as a source of supply is dependent on adequate storage water. To insure a base supply during the dry cycles (regardless of length), the reservoir providing the storage water must have a storage right which guarantees a firm yield (one to one), which American Falls Reservoir provides. Palisades Reservoir, on the other hand, does not have a one-to-one yield; however, it was designed to capture surplus flows during wet cycles and carry storage over for irrigation use during dry cycles.

The Bureau of Reclamation began development of the North Side Pumping Division facilities in the early 1950's, and the project was essentially

complete in the early 1960's. In 1963, the district began and has maintained diversion records for the Unit A Snake River pumping station. For the 1963 through 1983 period, the 21-year average annual surface water diverted to Unit A was 56,400 acre-feet, of which 23,000 acre-feet was natural flow and 33,400 acre-feet was storage. The records indicate Unit A lands have not experienced an irrigation shortage for the 21-year period examined, and there were only 3 years (1966, 1973, and 1977) in which the irrigation diversions exceeded natural flow plus the available storage in American Falls and required drafts from Palisades storage. Two of three years occurred during the 5-year period in which American Falls storage was restricted to 66.2 percent and the district's storage in American Falls was limited to 31,495 acre-feet.

When a spaceholder utilizes Palisades storage, a conveyance loss is charged to the user. The quantity of storage water released from Palisades Reservoir includes this conveyance loss. The district's average annual storage water diverted to Unit A was 33,400 acre-feet; however, because they utilized Palisades storage in 3 of the 21 years examined, the average annual storage water charged (released) was 33,500 acre-feet. In 1978, this practice of charging a conveyance loss to Palisades storage was discontinued.

Storage from Palisades Reservoir (including conveyance losses) required to meet the irrigation requirements of the Unit A lands in 1966, 1973, and 1977 were 8,690, 17,130, and 24,150 acre-feet, respectively. With American Falls Reservoir having a firm yield (one to one), it can be assumed that the Palisades storage requirements in 1973 and 1977 would have been significantly reduced had the storage restrictions on American Falls Reservoir not been in force. Assuming no storage restrictions on American Falls, the estimated

Palisades storage requirements (including conveyance losses) in 1973 and 1977 would have been about 1,800 and 8,820 acre-feet, respectively.

At the beginning of each irrigation season, storage space in the upper Snake River reservoirs is allocated to each spaceholder. During the 1963 through 1983 period, the 21-year average annual storage allocated to the district was 129,400 acre-feet (43,500 acre-feet from American Falls and 85,900 acre-feet from Palisades). As previously discussed, the average annual storage charged to the district over this same period was only 33,550 acre-feet (31,170 acre-feet from American Falls and 2,380 acre-feet from Palisades. Had American Falls storage not been restricted to 31,495 acre-feet (about a 15,330-acre-foot reduction) from 1973 through 1977, the average annual American Falls allocation would have been about 47,200 acre-feet. Further, the average annual storage required from Palisades Reservoir would have been reduced from 2,380 acre-feet to about 900 acre-feet (about 1 percent of the average annual Palisades storage allocated).

The district has maximized their natural flow diversions, and when storage has been used to meet the irrigation requirements of the Unit A lands, the district has utilized American Falls storage first and Palisades storage second. This practice has maximized annual carryover storage because the district receives their full American Falls storage allocation about 98 percent (estimated) of the time, and when storage has been required, the American Falls storage is capable of meeting the majority of the annual Unit A diversion requirements. In the 3 years Unit A storage requirements exceeded the available American Falls storage, between 84 and 96 percent of the annual storage requirements would have been provided by American Falls assuming no storage restrictions during the 1973 through 1977 period.

Under the proposed project, 3,950 acres would be provided a full water supply in Unit A, and a portion of the annual carryover storage would be utilized to meet the irrigation requirements of these new lands. Examining the district records and assuming the new lands would utilize available American Falls storage first, the estimated 21-year average annual available American Falls storage to the proposed new lands was 15,100 acre-feet, of which an average of approximately 10,000 acre-feet would be utilized. Storage requirements for the new lands not satisfied by American Falls storage would be met from Palisades storage. Based on the historic records, the estimated 21-year average annual Palisades storage requirements for the new Unit A lands would be less than 2,500 acre-feet. The estimated 21-year average annual Palisades storage requirements for the existing lands plus the proposed new lands would represent about 5 percent of the 21-year average annual Palisades storage allocation. The district's records indicate it is possible to serve the proposed new Unit A lands with available storage from American Falls and Palisades Reservoirs and still maintain adequate carryover storage to assure a dependable water supply during dry cycles to all (existing and new) Unit A lands.

There is one additional potential source of Snake River water which has not been addressed--the rental pool. Rental pool water is made available by spaceholders when they determine storage water allocated to them is in excess of their needs. This water is offered to the rental pool by the spaceholder, at which time the "rental pool committee" determines if there is a need for the water offered and further who might use it. Individuals or canal companies who forecast their need for water greater than their ownership rights may apply for additional water from the rental pool committee on an annual or long-term (through lease agreements) basis. Based upon the decision

of the committee (which is comprised of representatives from the "Committee of Nine," Reclamation's Minidoka Project office, and the watermaster), the water is made available to the interested applicant for a fee. The fee in 1984 was \$2.50 per acre-foot of water.

Assuming the new irrigation demands require the A&B Irrigation District to utilize the rental pool, the quantity that might be used would not adversely affect the other users of the pool. There are no priorities for use of the rental pool, only the annual determination by the committee. The cost of water from the rental pool would be covered with the annual operation and maintenance charges made to the project. Based on the historical records, it appears highly unlikely this potential source of water will be required or utilized under the Recommended Plan.

#### Surface Water--Drainage

The proposed plan would develop a partial solution to the injection well problem by irrigating Extension lands from existing North Side Pumping Division drains wherever possible. There is a potential of using drainage water to satisfy part of the irrigation water requirements of several blocks of new land located near the terminus of major drainage ditches in the A&B Irrigation District. Beginning in 1980, Reclamation, in conjunction with the A&B Irrigation District, began monitoring surface drainage flow during the irrigation season. In each year subsequent to 1980, several additional new measuring sites were established on injection wells and drainage ditches leaving the project.

The available records at each site vary from 1 to 4 years and indicate that the majority of the drains have periods during the irrigation season of minimal (zero) flow. There are substantial fluctuations in the daily discharge, and, to maximize the use of the drain flows, small regulating



facilities capable of storing the daily irrigation water requirements of the new lands would be required on the majority of the drains. On several of the drains, the size of the regulating facility required to maximize drainwater use would inundate an area of existing farmland which is approximately the same size as the area of new land proposed for development. Further, the annual yield on the majority of the drains will not meet the annual irrigation water requirements of the proposed new lands.

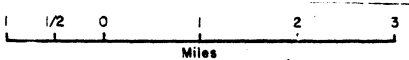
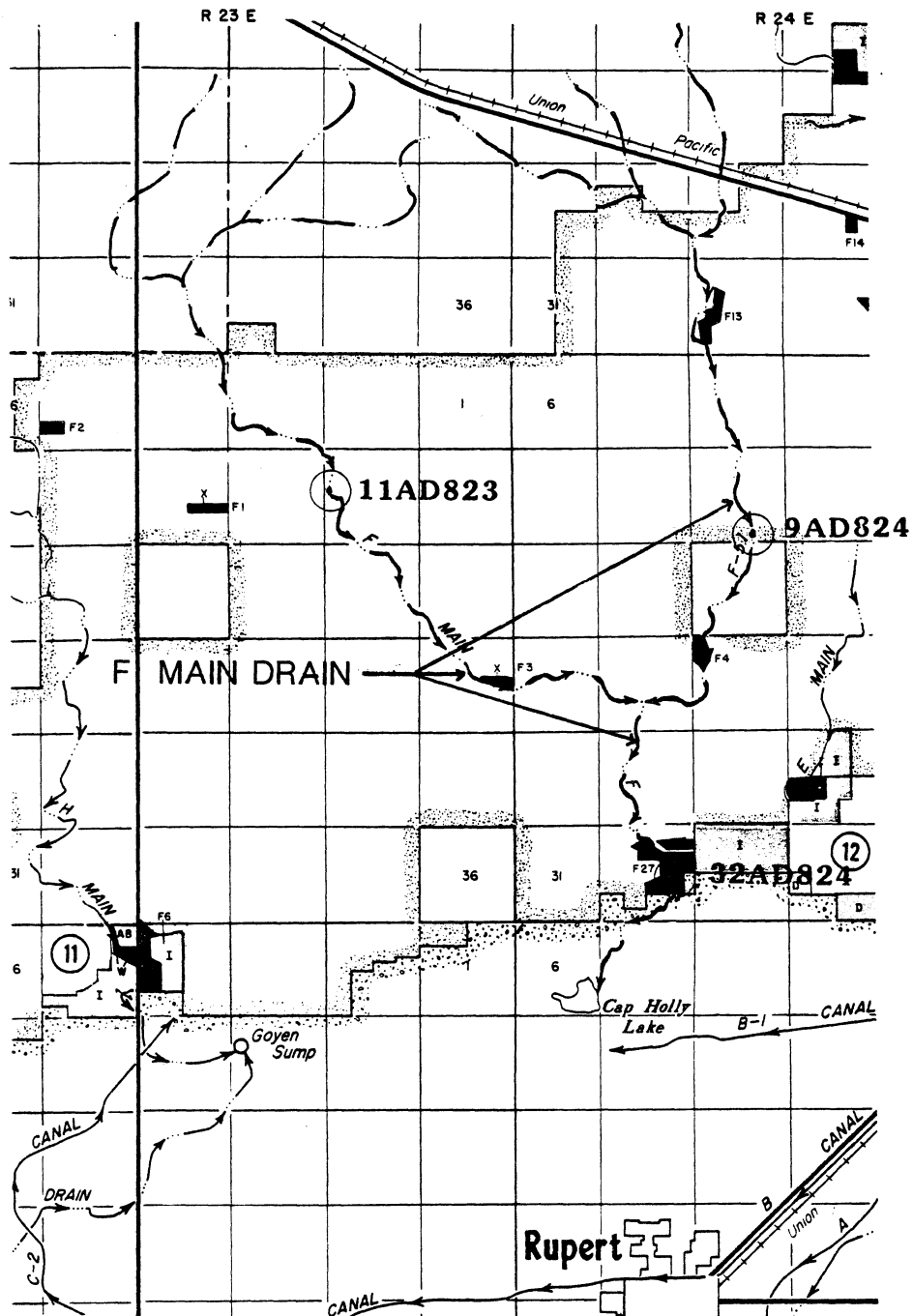
There are two areas where use of drainage water was found feasible as a potential source of water--tracts 11 and 12 (see Proposed Land Uses map). Drainage water will be diverted to Area 11 from the H Main Drain, and Area 12 will utilize drainage water from the E and F Main Drains. Records for the H Main Drain indicate this drain is capable of providing part of the irrigation water requirements of Area 11 (120 acres), and the records for the E and F Main Drains indicate there generally is sufficient drainwater to provide a dependable water supply to the land located in Area 12 (460 acres); however, some supplemental pumping from the existing project wells may be required in the early spring and late fall.

In 1982, a data collection site was established on the H Main Drain. There are two injection wells (4BD923 and 5AD823) on this drain, and the collection site was established between the two wells. In 1983, the collection site was relocated upstream of both injection wells so the total available drainwater could be estimated. The limited data available at the two sites indicate the H Main Drain can provide part of the irrigation water requirements to Area 11; however, a new ground-water well will be required to augment the drain flows for much of the irrigation season. Based on this limited data, the estimated drainage water which can be utilized by Area 11 is about 100 acre-feet per year (average).

Currently, about 70 acres in Area 12 are leased from the Government and are irrigated from drainwater in the E Main Drain. The estimated drainage water diverted from the E Main Drain is about 200 acre-feet per year (average), and it was assumed this practice would continue when the project is developed. The remaining 390 acres in Area 12 would be served from the F Main Drain.

Data collection on the F Main Drain began in 1981. There are three injection wells on this drain (11AD823, 9AD824, and 32AD824), and in the 1981 and 1982 seasons, the data collection site was located below all three wells. The total amount of water in the F Main Drain could not be quantified during the 1981 and 1982 seasons because the volume of water entering the three wells was not recorded.

In 1983, the collection site was relocated to just upstream of drain well 32AD823, and a new collection site was established to monitor the flows entering injection well 9AD824. The map of F Main Drain on the following page shows the location of the three injection wells on F Main Drain, noting the position of the recorder sites (above 32AD824 and at 9AD824) still does not account for the water entering injection well 11AD823. The 1983 data collected at the site just above drain well 32AD824 indicates there is sufficient drainwater in F Main Drain to provide an adequate water supply for 390 acres in Area 12 from mid-June through the end of August and would only require a very small regulating facility. In the period prior to mid-June and subsequent to August, the water entering the injection wells 11AD823 and 9AD824 would be diverted to Area 12 if water shortages occur. In the event the new lands would experience a shortage in the early spring to late fall, the existing project wells could be utilized to insure an adequate water supply for this period. The limited data available indicate the estimated



## F MAIN DRAIN

- - INJECTION WELL
- ① - EXTENSION STUDY AREA NUMBER

## EXISTING IRRIGATION

A&B IRRIGATION DISTRICT (NORTH SIDE PUMPING DIV.)

■ - UNIT B, GROUND WATER

MINIDOKA IRRIGATION DISTRICT (GRAVITY DIVISION)

■ - SNAKE RIVER SERVICE

drainage water which would be diverted from the F Main Drain to Area 12 would be about 900 acre-feet per year (average).

## CHAPTER 2--GROUND-WATER RESOURCES

### Introduction

A primary purpose of this chapter is presenting geohydrological data to aid planners in irrigation well-site selection and construction design for the North Side Pumping Division Extension studies.

Ground-water pumping for irrigation began in southern Minidoka County in 1947. The Bureau of Reclamation drilled three irrigation wells in 1948 and leased them to private landowners for irrigation. These wells proved the feasibility of ground-water pumping for irrigation and were the forerunners of numerous irrigation wells in the area.

Unit B contains about 62,200 acres, irrigated with ground water pumped from 177 wells located throughout the project area. Records maintained by the district indicate the 20-year average (1963 through 1982) annual ground water pumped to Unit B lands was 208,240 acre-feet.

A water level decline, beginning in the 50's and thought at the time to be caused by ground-water pumping, resulted in about 90 wells being deepened. Deepening began in about 1958 or 1959, and continued until about 1964. A few wells were deepened twice. Several wells were deepened immediately after completion because of inadequate yield. One well was deepened in 1981.

The ground-water requirements for the proposed new Unit B lands will be provided from 18 ground-water wells (14 new and 4 existing) located near or within the individual tracts of land. During original development, five wells were drilled and not used. One well, 33A824, has been sold to the city of Rupert. The remaining four wells would be used for a water supply. Some or

all of these wells may require some renovation to bring them up to current Reclamation well construction standards.

### Conclusions

Net ground-water pumping for the proposed North Side Pumping Division Extension project is expected to increase total pumpage from the area by approximately 13,520 acre-feet per year--about a 2.5-percent increase over present use in the Snake Plain aquifer in the Rupert to Thousand Springs area and about a 1-percent increase for the entire Snake Plain aquifer. The plan would provide for 15,620 acre-feet of additional pumpage but would be offset by 2,100 acre-feet for the replacement area (810 acres).

The major influence upon ground-water level declines and recoveries is climate; therefore, the increased pumpage is not expected to have a measurable effect upon present water levels. Locally, a water level drop of 1 to a few feet may occur but, because of the enormity of the Snake Plain aquifer and the ground-water supply, the effect will be difficult to identify at any distance beyond the project area. The effect of the additional pumpage, a possible 0.25-percent decrease in aquifer discharge at Thousand Springs, will not be identifiable at the springs.

### Geology

The project area topography consists of gently rolling hills typical of a basalt flow landscape. This is in contrast to the relatively flat river formed landscape to the south. An abrupt rise in surface elevation marks the southerly extent of lava flows. This topography change is the dividing line between the Minidoka Irrigation District to the south and the North Side Pumping Division Irrigation District on the north.

A blanket of wind-deposited silt, sandy clay, and very fine sand from a few inches to a few tens of feet thick covers most of the underlying basalt. There are, however, a few isolated basalt outcrops dotting the area. In other areas, basalt debris at the surface testifies of more basalt at shallow depths.

The basalt is typical of Snake River basalt being made up of everything from ash, cinders, and highly fractured rock to thick, dense, and massive flows. The sediment is mostly clay and silt with some coarse sand and little gravel.

The subsurface geology of the Minidoka Irrigation District is comprised predominantly of sediment with the amount of sediment decreasing east, west, and north. Nearly all the area beneath the North Side Pumping Division Unit B is made up of basalt with few to minor amounts of sediment. The basalt is mostly highly to moderately broken with many innerflow zones of rubble and/or cinders. The subsurface beneath tract 4 is composed of basalt interbedded with substantial amounts of mostly fine-grained sediment. The subsurface geology of the area occupied by North Side Pumping Division Unit A is also primarily basalt with minor amounts of sediment locally.

### Geohydrology

#### Snake Plain Aquifer

The ground-water source for the North Side Pumping Division is the extensive Snake Plain aquifer; hence recharge and/or withdrawal changes within the Snake Plain aquifer affects the North Side Pumping Division aquifer, and recharge and/or withdrawal changes within the North Side Pumping Division aquifer affect the Snake Plain aquifer, primarily aquifer users down gradient from the North Side Pumping Division. Therefore, a look at the Snake Plain aquifer is essential to understanding the ground-water regime of the North

Side Pumping Division. The following is a discussion of the Snake Plain aquifer from "Investigations Ground-Water Supply for Salmon Falls."










The Idaho Snake Plain aquifer (see map on following page) is one of the largest and most prolific in the Nation. The aquifer extends from St. Anthony to Bliss, a distance of 180 miles, and averages 60 miles wide. Area extent is about 10,800 square miles or 6,900,000 acres.

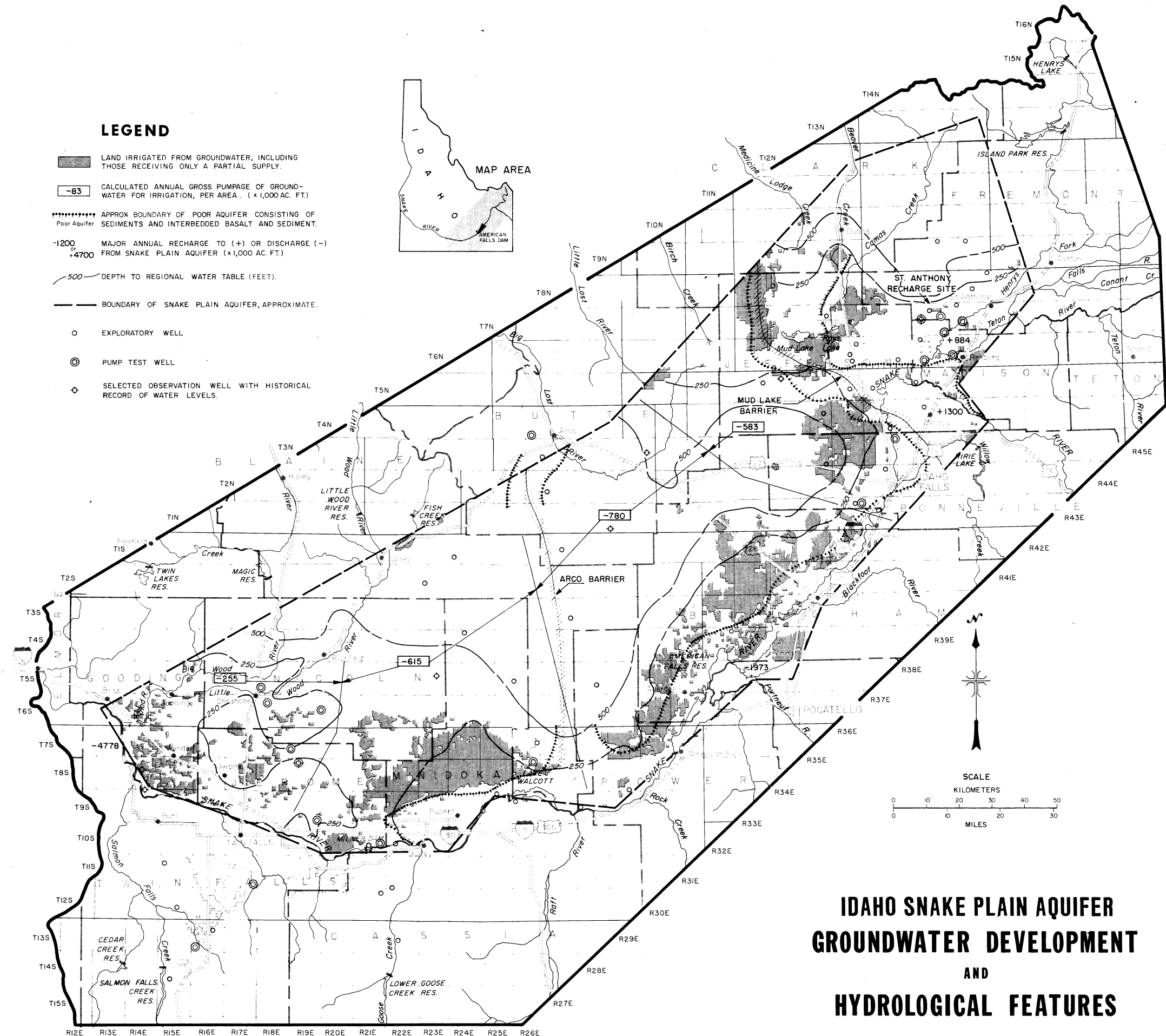
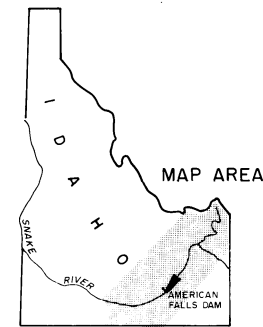
The trough which contains the Snake Plain aquifer is a broad downwarp or downdropped fault block extending over 190 miles from Bliss to Ashton. Rocks which form the bordering mountains and the floor of the trough are largely consolidated materials of low permeability. The trough is filled with a thick sequence of lava flows including basalts of the Snake River Group. Major sites of outpouring of lava appear to have been concentrated in three areas of the plain: An area north of Rupert; on the plain between Blackfoot and Arco; and an area south of Dubois. There is evidence that volcanic activity in the three areas was progressively younger from west to east. The concentrations of lava accumulations tend to be encircled by sediments.

As the trough filled, the ancestral counterparts of present-day streams were repeatedly diverted, confined, and ponded. The successive layers of basalt in areas of volcanic activity continuously maintained higher elevations and stream courses were restricted to lower topography around the margins of the accumulating lava flows. Sediments from ancient streams and lakes accumulated to great depth in approximately the same location as present streams.

The Idaho Snake Plain Aquifer map shows a boundary between areas of predominantly basalt and areas of alluvium, in part interfingering with basalt. In most areas of surface or near-surface sediments such as at Rupert, the upper end of Walcott Reservoir, American Falls Reservoir, and at Mud Lake, the

# **LEGEND**

-  LAND IRRIGATED FROM GROUNDWATER, INCLUDING THOSE RECEIVING ONLY A PARTIAL SUPPLY.
-  -83 CALCULATED ANNUAL GROSS PUMPAGE OF GROUNDWATER FOR IRRIGATION, PER AREA. (x1,000 AC. FT.)
-  APPROX. BOUNDARY OF POOR AQUIFER CONSISTING OF SEDIMENTS AND INTERBEDDED BASALT AND SEDIMENT.
-  -1200 or +4700 MAJOR ANNUAL RECHARGE TO (+) OR DISCHARGE (-) FROM SNAKE PLAIN AQUIFER (x1,000 AC. FT.)
-  500 DEPTH TO REGIONAL WATER TABLE (FEET).
-  BOUNDARY OF SNAKE PLAIN AQUIFER, APPROXIMATE.
-  EXPLORATORY WELL
-  PUMP TEST WELL
-  SELECTED OBSERVATION WELL WITH HISTORICAL RECORD OF WATER LEVELS.



## **IDAHO SNAKE PLAIN AQUIFER GROUNDWATER DEVELOPMENT AND HYDROLOGICAL FEATURES**



deepest drilling of about 1,000 feet is still in alluvium. Several deep wells in the Mud Lake area penetrate varied clays at about 800-feet below surface showing that a lake existed in that area in glacial time. Most of the sediments are fine grained and poorly permeable although there are occurrences of sand and gravel.

The occurrence of poorly permeable lake sediments such as at Mud Lake, extending across the aquifer, in effect form a "dam" which segments the aquifer. The dam formed by the Mud Lake sediments is referred to as the Mud Lake barrier. The water table above the barrier is at about elevation 4700 and drops to 4550 immediately below. A similar zone of steepened gradient extends across the plain between Arco and Lake Walcott (Crosthwaite, 1973). This is interpreted as a barrier of sediments similar to the Mud Lake barrier and is noted as the Arco barrier on the Snake Plain Aquifer map. The water table above the barrier is at elevation 4400 and descends to elevation 4100 below the barrier in a distance of 3 miles.

Although the Snake Plain aquifer appears to be segmented into three separate compartments or reservoirs, there is a degree of hydraulic continuity. The effect of the aquifer dams is not fully understood at this time but may be significant in regard to location and effects of recharge or withdrawals from the aquifer. Water table changes occurring in one segment appear to be dampened in passing through a downgradient barrier.

Thickness of the Snake Plain aquifer is unknown except in marginal areas of the plain. The deepest drilling on the plain is about 10,000 feet. Present interpretation of a geophysical profile developed by the Geological Survey between Blackfoot and Arco indicates a maximum thickness of 7,000 feet. There are indications that permeability may decrease with depth so that the maximum effective aquifer thickness may be considerably less than 7,000 feet.

Transmissivity<sup>1/</sup> of the aquifer ranges upward to  $36 \times 10^6$  gpd/ft as measured in controlled pump tests. Values approaching  $100 \times 10^6$  gpd/ft are suspected under some interior portions of the plain to accommodate the known magnitude of flow. In comparison, transmissivity values for the Columbia River basalts are in the range of 12,000 to 30,000 gpd/ft in eastern Washington, and 67,000 to 130,000 gpd/ft in the Umatilla, Oregon, area. At The Dalles, Oregon, transmissivity of the Yakima basalt ranges upward to about 300,000 gpd/ft.

A true value for storativity<sup>2/</sup> has not been accurately derived for basalt aquifers from relatively short-period pump tests. Most investigators have used a range of storage values for the Snake Plain aquifer of between 10 and 20 percent. Even using the smaller of the two, a change in water table of 1 foot across the plain represents a change of water in storage of 690,000 acre-feet.

The aquifer is fed by seepage from streams which enter or cross the plain, underflow from tributary valleys, irrigation return flows, and from precipitation on the plain and bordering foothills. Prior to the advent of large scale irrigation about 3 million acre-feet per year moved through the basalts in this way--presently recharge from surface-water irrigation amounts to about an additional 4.8 million acre-feet per year. Discharge from the aquifer occurs as spring flows concentrated near the upper end of the American

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<sup>1/</sup> Transmissivity indicates ability of aquifer to transmit water--gallons per day which would move through a 1-foot wide slice of the aquifer under unit gradient

<sup>2/</sup> Storage or storativity is an indication of effective porosity of an aquifer--the volume of water an aquifer releases or acquires per unit surface area of the aquifer per unit change in head. At 10 percent storage, a water table rise or decline of 10-feet under 1 acre would equal a gain or loss of 1 acre-foot of water; and at 20 percent storage a gain or loss of 2 acre-feet.

Falls Reservoir and at Thousand Springs, and as ground-water pumpage for domestic, municipal, and irrigation supplies.

The Inflow, Outflow, and Storage map on the following page illustrates the Snake Plain aquifer water budget.

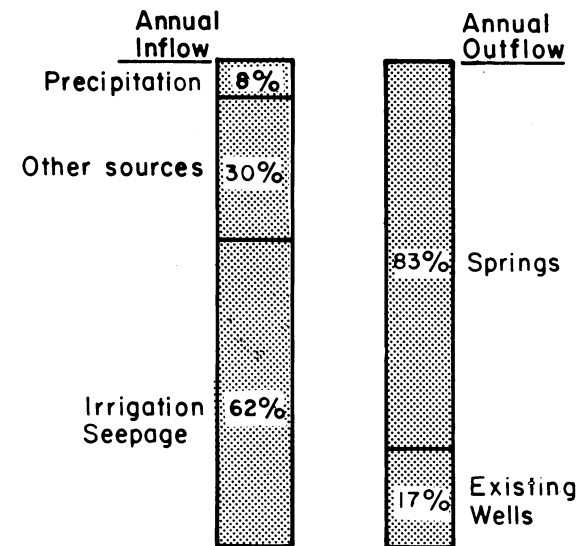
North Side Pumping Division Aquifer.--The aquifer, as previously discussed, is made up of sediment and basalt. A few locations, particularly part of that area occupied by Minidoka Irrigation District, have wells that penetrate no basalt; other locations have wells with little or no sediment.

The sediment is mostly fine grained with some sand and little gravel. Water yield from the sediment is generally small, up to a few tens of gallons per minute.

The basalt is made up of a series of thin flow sheets, from a few feet to several tens of feet thick. Where the flow sheets are deposited one upon another to form a relatively thick sequence, and where the basalt is highly fractured and/or contains numerous rubble or cinder zones, the water yield is large, up to several thousand gallons per minute. Where the flow sheets are made up of dense, and massive basalt and/or is covered, penetrated, or innerbedded with fine sediment, the water yield is small to moderate. One such area is in the southwest part of Unit B located mostly in T9S/R22E where several low yielding wells are found.

Here the aquifer is comprised of basalt innerbedded with substantial amounts of fine sediment. Some of the basalt in the upper part of the aquifer also contains fine sediment that reduces the permeability. The deeper basalt is relatively free of sediment, but must be thick, massive, and dense with a low permeability because water yield remains low despite more than 100 feet of exposed basalt aquifer in some wells.

# AQUIFER BUDGET



Annual inflow and outflow varies from 7.6 - 8.2 millions of acre feet.

Total aquifer storage 250 million acre feet (USGS)

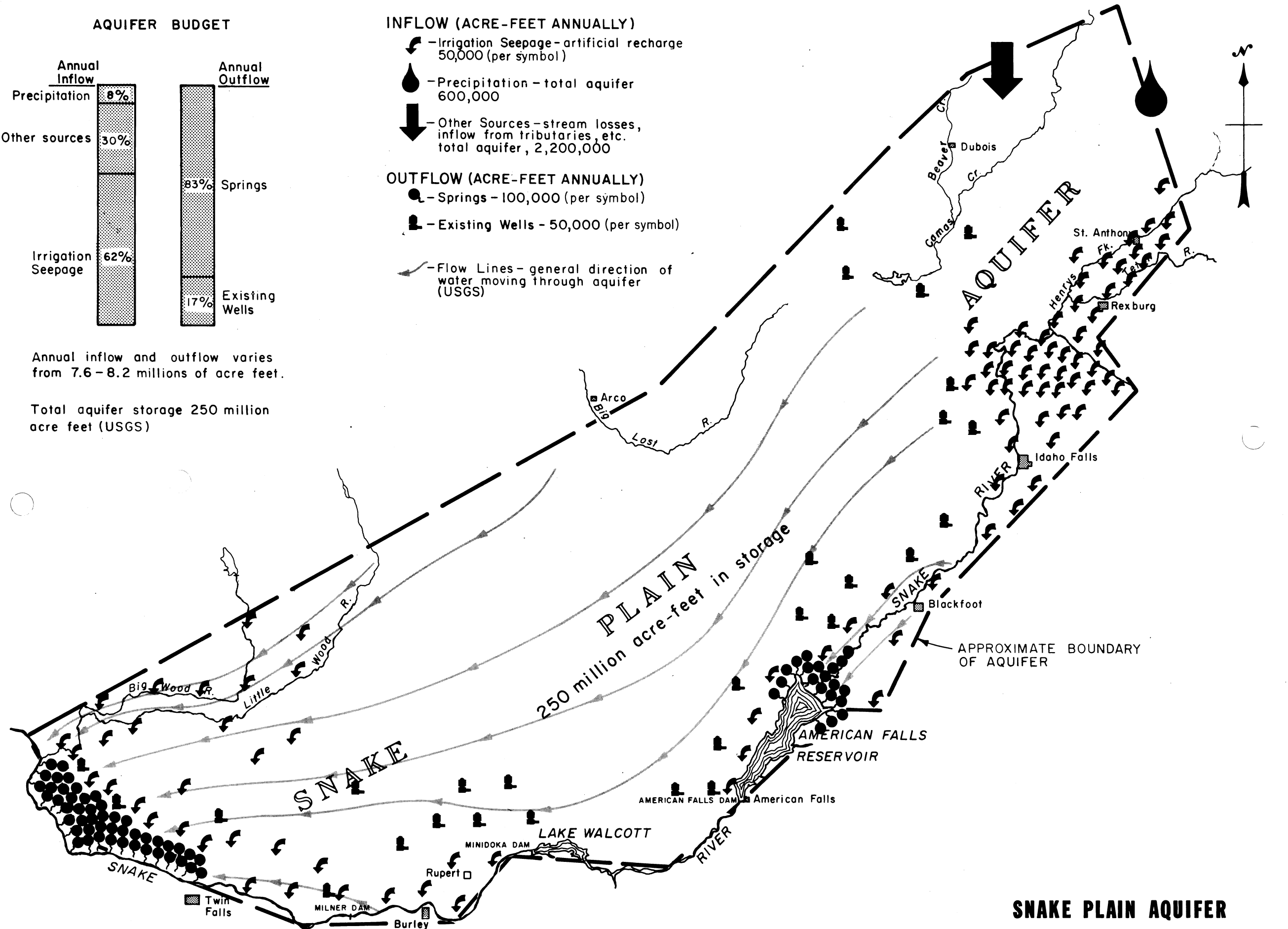
# INFLOW (ACRE-FEET ANNUALLY)

- Irrigation Seepage - artificial recharge 50,000 (per symbol)
- Precipitation - total aquifer 600,000
- Other Sources - stream losses, inflow from tributaries, etc. total aquifer, 2,200,000

# OUTFLOW (ACRE-FEET ANNUALLY)

- Springs - 100,000 (per symbol)
- Existing Wells - 50,000 (per symbol)

- Flow Lines - general direction of water moving through aquifer (USGS)



**SNAKE PLAIN AQUIFER  
INFLOW, OUTFLOW AND STORAGE**

The specific capacity of a well is a measure of the yield potential of that well and of the aquifer at that well site. Specific capacity is calculated by dividing the yield in gallons per minute by the water level drawdown in feet. The resultant value is, therefore, reported in gallons per minute per foot of drawdown, or, the aquifer should yield the calculated number of gallons of water each minute for each foot the water level is drawn down. The larger the specific capacity number the greater the yield potential for the well. The Specific Capacity map (map 1 at end of appendix) is a contoured illustration of the specific capacity values for the North Side Pumping Division area. The sediment portion of the aquifer penetrated by the wells was ignored because water yield from the sediment is small, probably not over a few gallons per minute. These specific capacities were derived from reported district well pump test data. The predominantly basalt aquifer has the highest specific capacity, sometimes as high as several thousand gallons per minute per foot of aquifer drawdown; whereas, the predominantly sediment aquifer has the lowest specific capacity, often as low as several gallons per minute per foot of drawdown.

The district well pump tests were run to determine whether the well would deliver the required yield for that site and were not run to determine hydrologic properties of the aquifer. Because of this, inspection of the Specific Capacity map will show a great diversity of specific capacity values throughout the irrigation district. Sometimes adjacent wells have greatly different specific capacity values, one high and the other low. The high value probably more nearly reflects the yield potential for the aquifer; therefore, the large value was plotted on the map.

A Depth to Water map (map 2 at end of appendix) was prepared from district measured water level data (spring 1981) and from surveyed well

elevations. The water table depth is about 80 feet below land surface on the southeast edge of the irrigation district and increases to about 400 feet on the west edge. The increasing depth results mostly from falling water table elevations east to west.

A Water Table Elevation map (map 3 at end of appendix) was drawn from spring 1981 district measured water levels and illustrates ground-water flow direction and ground-water recharge areas. Generally, the ground-water flow sweeps across the North Side Pumping Division area from northeast to west-southwest. Ground-water recharge from Raft River and Oakley Fan and especially from Burley Irrigation District and Minidoka Irrigation District areas flows in a west-northwest direction and is intercepted by the Snake Plain aquifer near the southern edge of the North Side Pumping Division area.

The water table elevation is about 4090 feet on the southeast edge of the North Side Pumping Division area and falls to about 3840 feet on the west edge of the district. This a drop of about 250 feet as the ground water crosses the district. The gradient is quite flat, less than 3 feet per mile, from the east edge of the district to a line running northerly between Burley and Rupert, then swinging in a westerly arc to north of Paul and finally trending northwesterly across the district (see Water Table Elevation map). West of the above line the gradient increases to about 15 feet per mile except for a circular flat area, with a gradient of about 1.5 feet per mile, covering about 25 or 30 square miles near Burley and Paul. The very flat area near Burley and Paul is probably the location of an almost all sediment aquifer.

#### Recharge

Because the aquifer beneath the North Side Pumping Division is part of the Snake Plain aquifer, most of its recharge is from that source. The three main recharge sources are precipitation, and surface-water losses from streams

and irrigation. Precipitation amounts to about 10 percent of the recharge, loss from streams and other surface-water sources amounts to about 30 percent, and irrigation contributes about 60 percent. Secondary recharge sources, such as drain wells, originate locally.

Snake River flow, loss or gain, between the Neeley Gage below American Falls Dam and the Minidoka Gage below Minidoka Dam has been computed for the period 1908 to 1980. Figure 1 is a plot of the loss-gain data. Losses were initially large, with a high in 1910 of about 381,000 acre-feet, and thereafter, decreased to a low in 1933 of about 1,000 acre-feet. The 1908 to 1933 period had 7 years of flow gain with a high in 1929 of about 108,000 acre-feet and a low in 1928 of about 14,000 acre-feet. Since 1935 there have been only 2 years of flow loss, 1964 with about 4,000 acre-feet and 1967 with about 24,000 acre-feet. During the 1935 to 1980 period there were large flow gains from 1972 to 1975 and in 1980 with a high of about 416,000 acre-feet and a low of about 324,000 acre-feet.

Hydrologists have been unable to positively identify the cause of the change from flow loss to flow gain. The effect of the flow change, however, is not apparent on the water level record. Much of the change occurred before North Side Pumping Division construction and during a period of increasing ground-water recharge from growing surface irrigation diversion throughout the Snake Plain aquifer area that peaked during the 1950's. See figure 2-A for a plot of surface-water diversions on the Snake Plain from 1928 to 1983.

Burley Irrigation District and Minidoka Irrigation District utilize Snake River water, diverted from Lake Walcott, as an irrigation supply. Both districts are ground-water recharge source areas for the Snake Plain aquifer beneath the North Side Pumping Division. The Burley Irrigation District is located south of the Snake River and the Minidoka Irrigation District is

Snake River  
Computed Flow Gain or Loss  
Neeley Gage to Minidoka Gage  
X 1000 Acre Feet

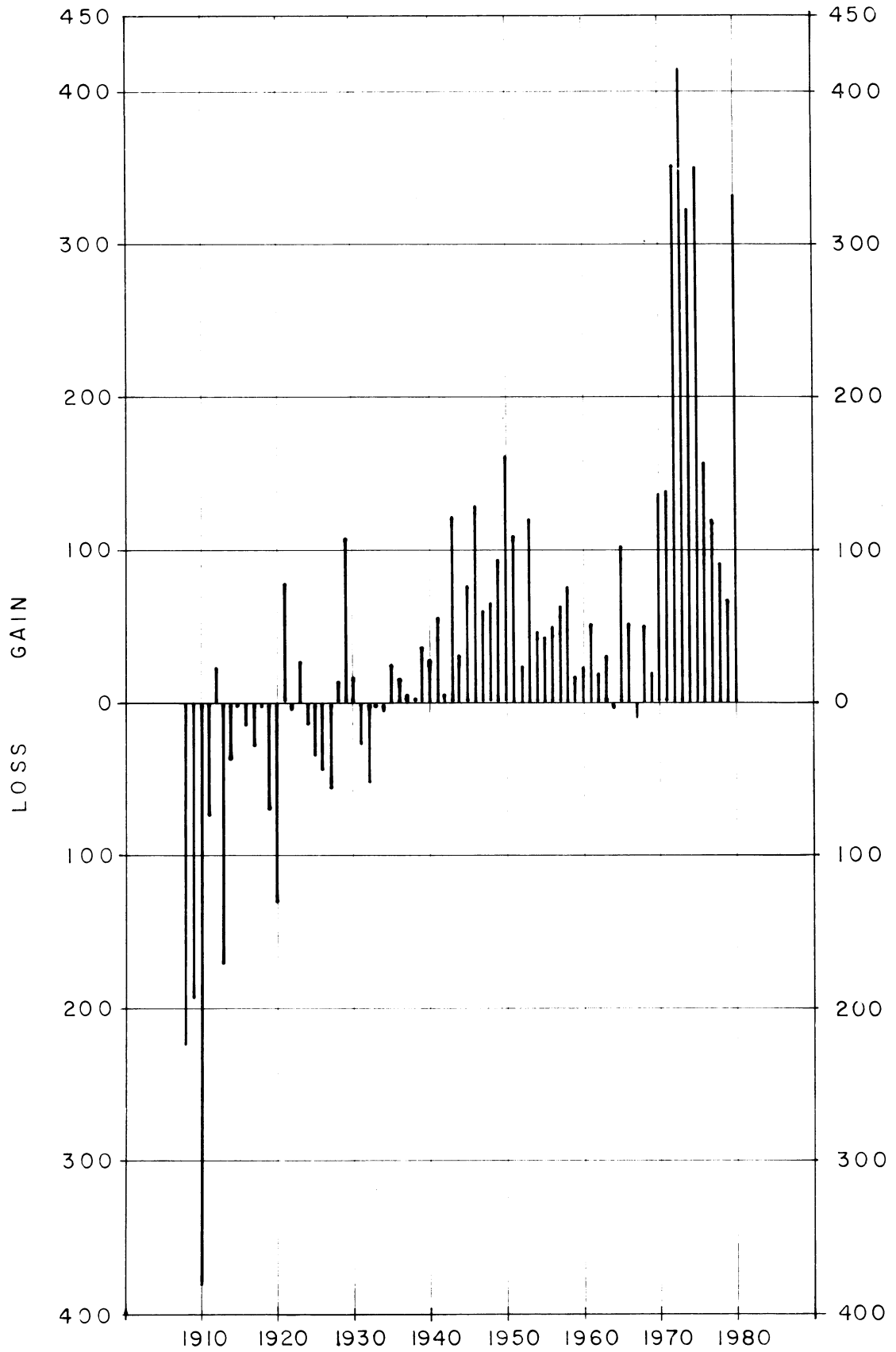


Fig. 1



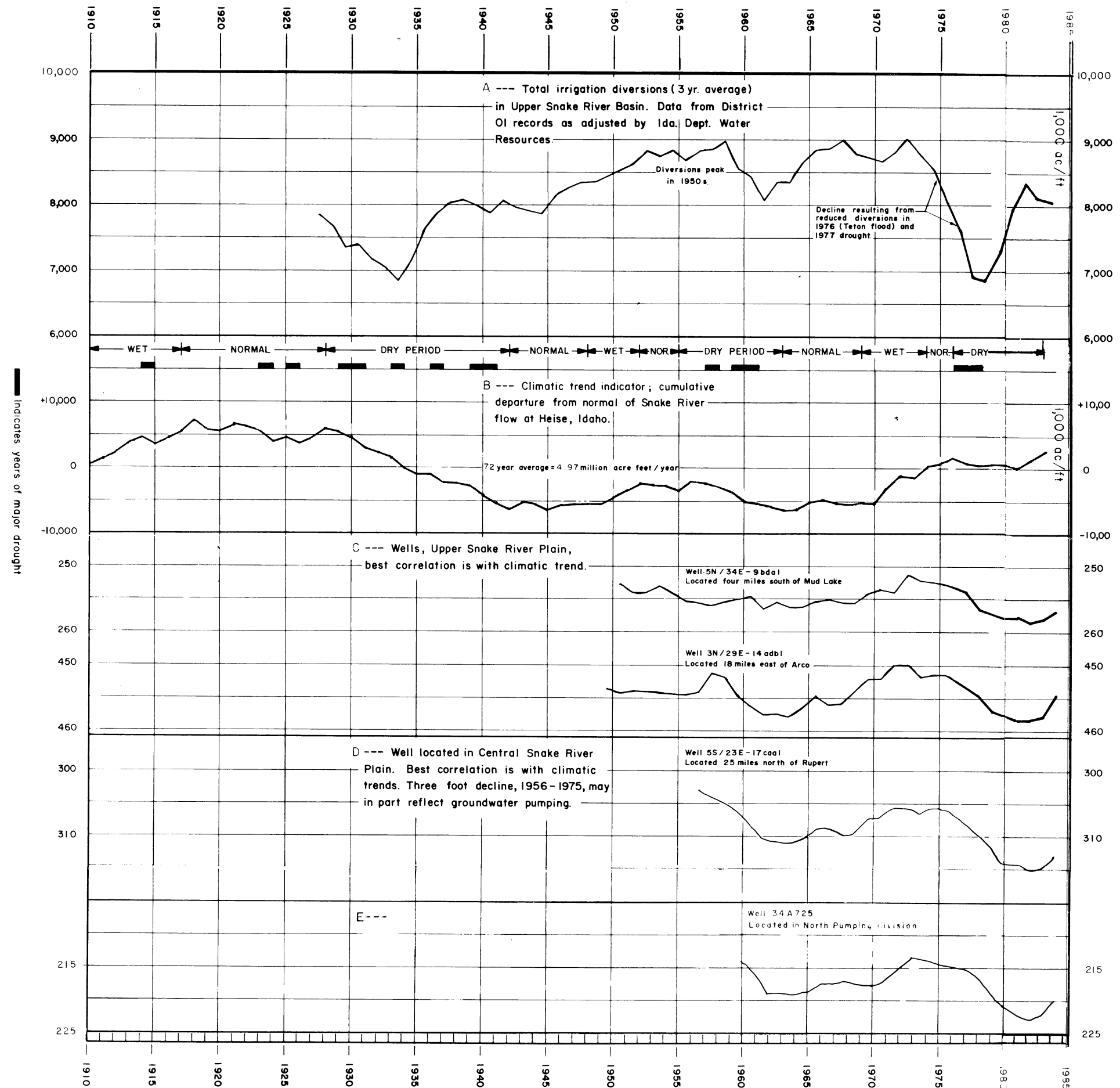


Fig. 2

located north of the Burley Irrigation District between the Snake River and the North Side Pumping Division Irrigation District.

Figure 3-A and B are graphs illustrating Burley Irrigation District and Minidoka Irrigation District's irrigation diversions for a 22-year period from 1960 to 1982. The Burley Irrigation District irrigation diversions, figure 3-A, have remained fairly constant at about 240,000 acre-feet per year for the 22-year period. Whereas, the Minidoka Irrigation District irrigation diversion, figure 3-B, rose from 1960 to a high in 1965 and 1969 of about 580,000 acre-feet each year and then decreased to a low in 1977 of about 414,000 acre-feet and in 1982 of about 421,000 acre-feet.

The Minidoka Irrigation District irrigation diversions decrease as a result of a district water saving program practiced by the irrigators. This diversion decrease represents a sizable reduction in ground-water recharge for that portion of the Snake Plain aquifer feeding the North Side Pumping Division irrigation wells.

Due to the lack of data, an unknown amount of recharge to the aquifer comes from drain wells located throughout the project area. The amount of recharge is not large, probably not over a few thousand acre-feet per year.

#### Discharge

Discharge from the aquifer occurs as spring flow or from ground-water pumping. Ground-water pumping is the major aquifer discharge in the North Side Pumping Division area, with about 210,000 acre-feet pumped each year within the project. Figure 3-C illustrates district ground-water pumping from 1963 to 1982. Additional ground-water pumping of an estimated 400,000 acre-feet occurs in the area adjacent to and near the project, making this area one of the most intensely pumped on the Snake Plain.

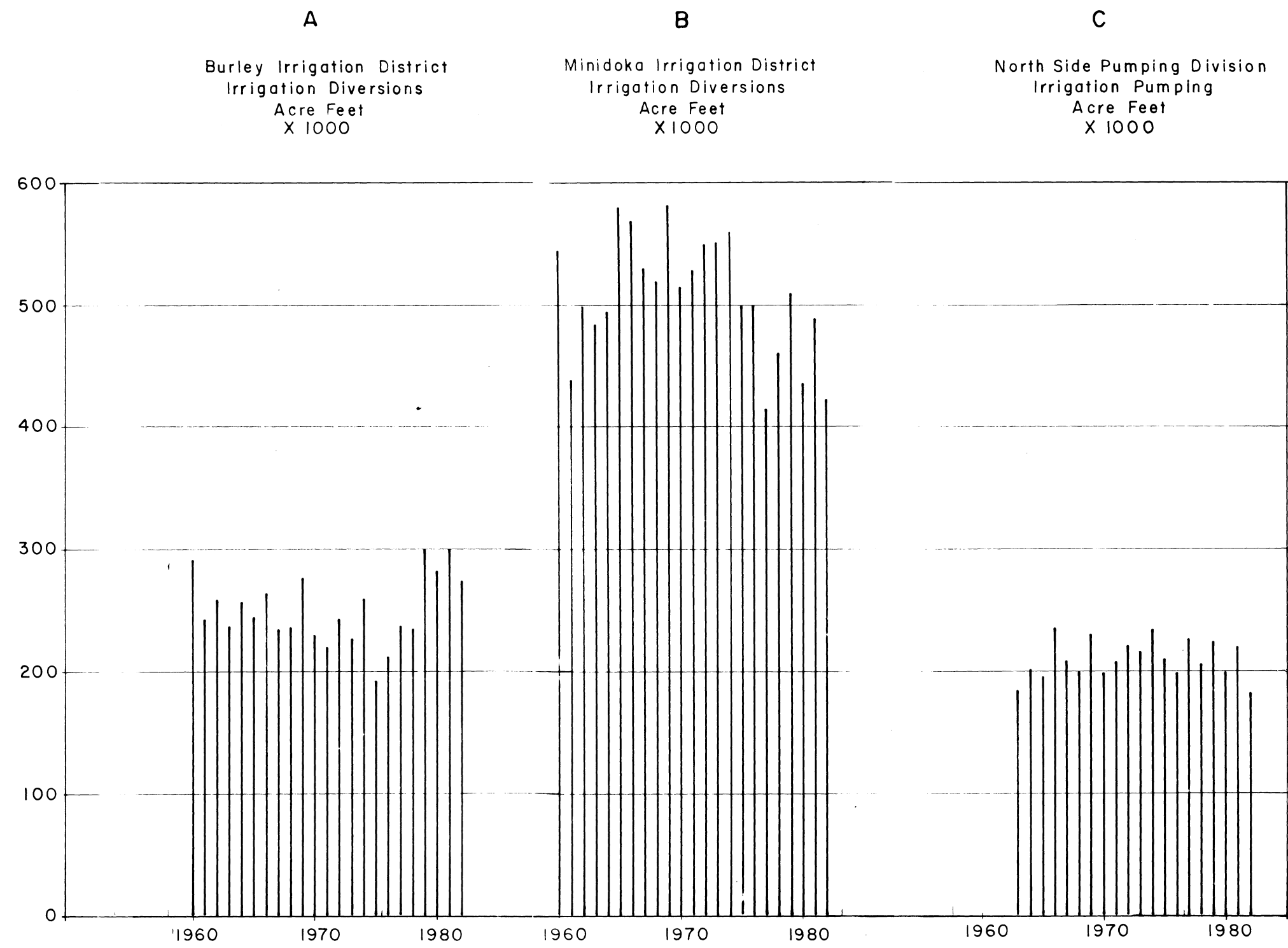


Fig. 3

Water Level Fluctuations.--Water level fluctuations are the aquifer's natural response to changes in storage. These fluctuations include: short-term (seasonal cycle) water table movement resulting from day-to-day changes in aquifer recharge or withdrawal over a period of a year; and long-term water table movement superimposed upon the short-term movement resulting from major changes in recharge or withdrawal extending over a period of several or more years. See figure 4 for illustration of long- and short-term water level fluctuation.

The short-term response is caused by changes in recharge from precipitation, river and reservoir losses, irrigation, and from withdrawals such as pumping. Short-term (yearly) fluctuations in the North Side Pumping Division range from about 4 feet in the porous basalt aquifer in the northern part of the project area to about 20 feet in the sediment, sediment-basalt aquifer in the southern and southwestern part of the project.

The long-term response is caused by such things as major precipitation changes over a period of several years, or by major surface irrigation and ground-water pumping changes. The most significant long-term change appears to be from precipitation. Comparison of the long-term hydrograph in the North Side Pumping Division area (figure 2-E, well 34A 725) with the Snake River flow hydrograph (figure 2-B) from the Heise gage show very close correlation. The Heise gauge was selected because it is upriver from major irrigation diversions and thus reflects changes in precipitation instead of changes in irrigation diversions and return flows. Well hydrographs located downstream from the Heise gage reflect a combination of influences from irrigation and precipitation. Therefore, similarities in the Heise River gage and downstream well hydrographs are caused by precipitation.



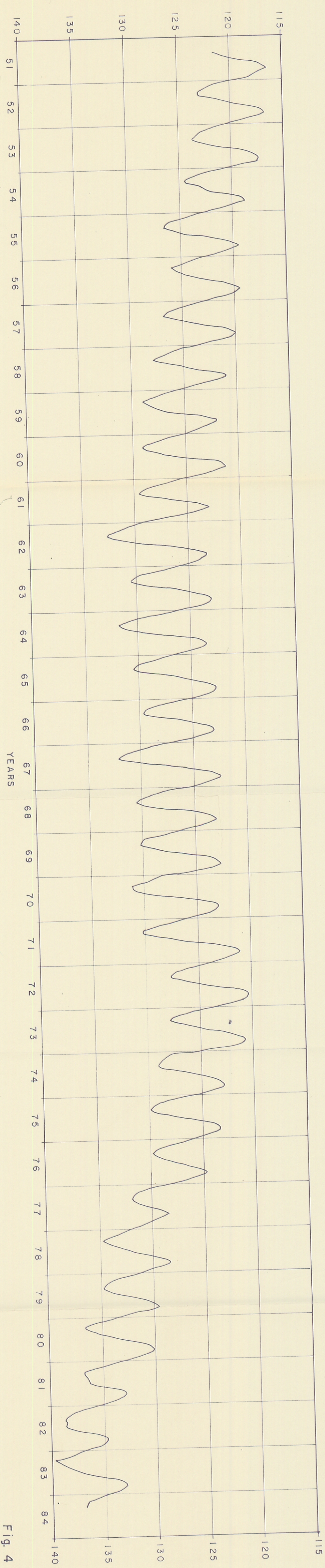
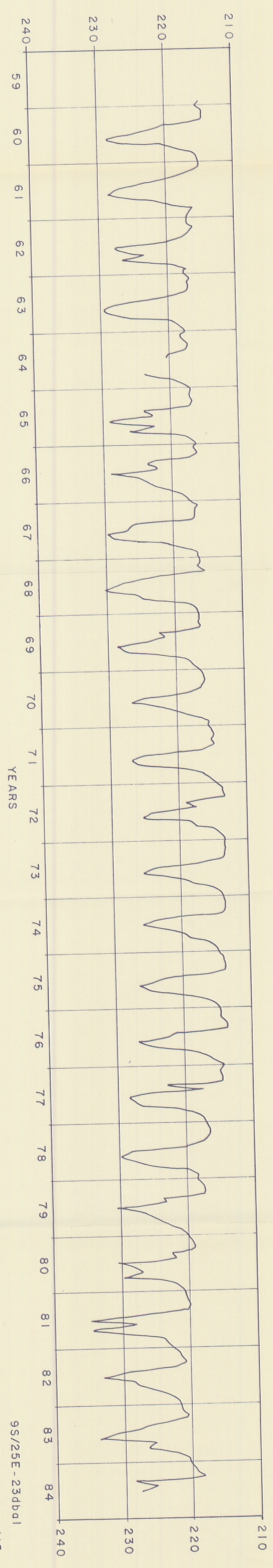


Fig. 4



The Water Level Change maps (maps 4 through 7 at end of appendix) are contoured plots of water level change within the North Side Pumping Division area. The long-term water level peaked in the early to mid-1950's and then began a water level decline period lasting until the early to mid-1960's. Because of the water-level decline (1950's to 1960's), ground-water geologist Jack Frink was hired to study the ground-water problem. During this decline period, there was about an average 12-foot aquifer water level drop. The 1953-58 to 1963 Water Level Change map (map 4 at end of appendix) illustrates declines ranging from 1 to 36 feet. In an effort to determine the cause of the decline, water-level hydrographs and other data from throughout the Snake Plain aquifer area were studied. The hydrographs included those within the North Side Pumping Division and other irrigated areas as well as those beyond direct influence of pumping or surface water irrigation. Mr. Frink estimated that 6 to 7 feet of the decline was probably caused by irrigation pumping and the remainder was caused by a drier climatic period.

A wetter climatic period from the mid-1960's to the early to mid-1970's, followed the 1950's to 1960's declining period and caused the water levels to recover an estimated 5 feet of the 12-foot decline. The 1963 to 1973 Water Level Change map (map 5 at end of appendix) shows recoveries ranging from 1 to about 15 feet. Another declining period began in the 1970's and continued until about 1982 (1973 to 1982 Water Level Changes map in pocket). There has been an estimated net 10- to 15-foot decline from the 1950's to 1982 (map 7 at end of appendix). This decline resulted from a combination of causes including: (1) a drier climatic trend in the 1950's to 1960's and 1970's to 1980's; (2) additional ground-water pumping throughout the Snake Plain aquifer area, with over 400,000 acre-feet in the area adjacent to the North Side Pumping Division; (3) reduced wintertime diversions beginning in the early

1970's; (4) reduced irrigation diversions in the Minidoka Irrigation District resulting from water savings practiced by the irrigators; (5) increased pumping in some of the North Side Pumping Division aquifer recharge areas such as Northwest Raft River and Northern Oakley Fan.

Water level hydrographs (figure 2C, D, and E) show the 1970's to 1982 water level decline has stopped and is showing a slight recovery for 1983 and a stronger recovery for 1984. If this recovery continues a portion of the past decline will be regained.

Additional ground-water pumping has slowed on the Snake Plain because of water rights controversy and because most potential irrigable land is in production. The portion of the decline caused by pumping has slowed and may have stabilized.

Comparison of four water level hydrographs (figure 2C, D, and E) spaced along the Snake Plain show that about 6 to 9 feet of the decline between the 1970's and 1982 was probably caused by climate and other causes such as reduced diversion and any additional decline may be caused by pumping. The total decline may be slightly over 9 feet in the project area. In the southwest part of the project area, hydrographs (figure 5) show the decline slowing and may have stabilized or is showing a very slight recovery. The reason the water levels in this area are behaving differently than elsewhere on the project may be due to ground-water pumping in Northern Oakley Fan.

The total net decline in the project area from all causes is about 5 feet from the 1963 low to the 1982 low.

The 1970's to 1982 water level decline period resulted in dropping water levels that caused pump and water yield problems throughout the North Side Pumping Division area. This caused renewed concern about ground-water mining among area pumpers, and stimulated demands for ground-water pumping

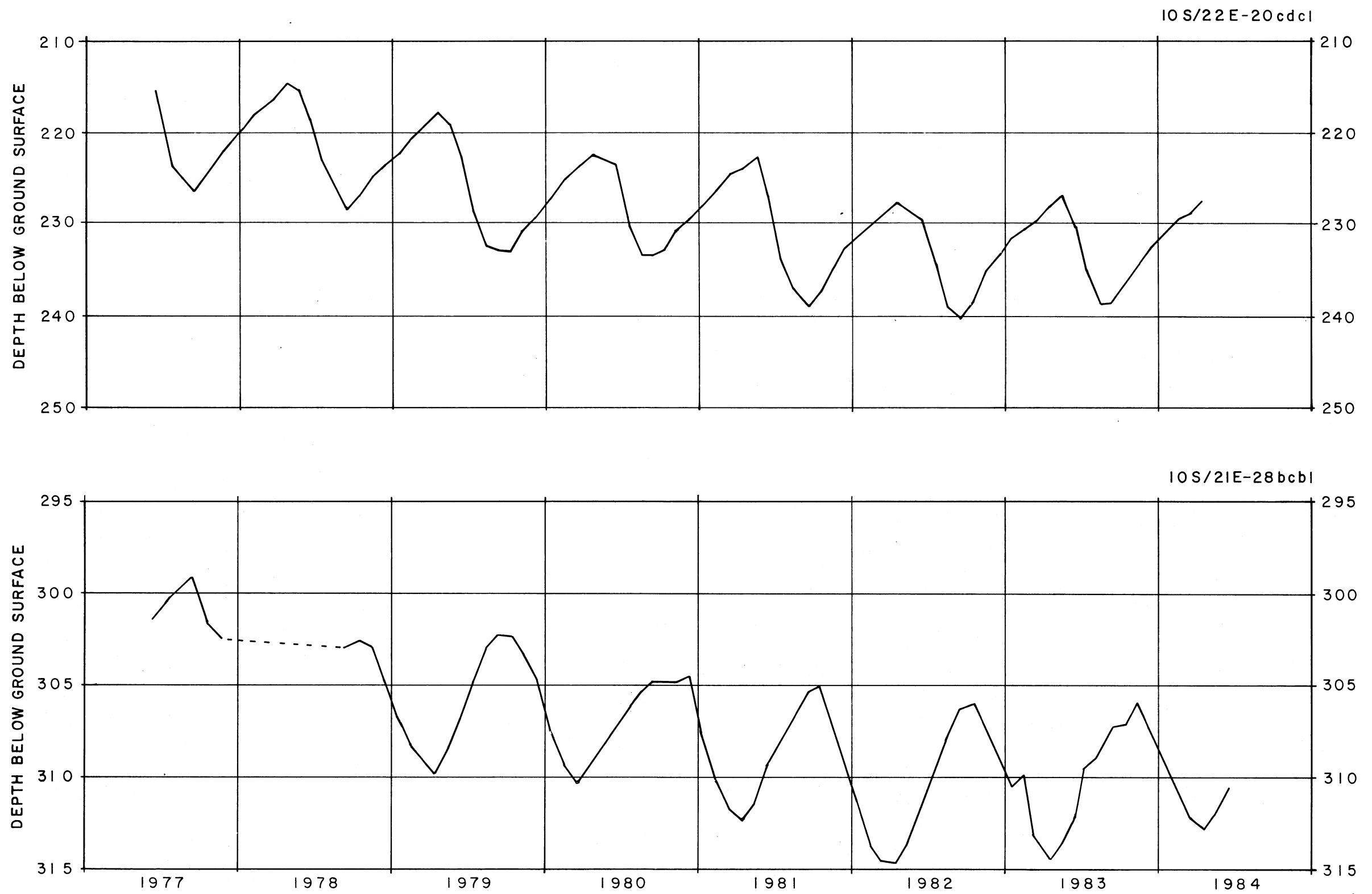


Fig. 5



restrictions. Reclamation was again requested to study the problem. Review of the previous decline data found the conclusions sound. The current decline problem like the previous one was mostly related to a drier climate trend, but also aggravated by changes in irrigation practices, such as reduced irrigation diversions, throughout the Snake Plain aquifer area. It was concluded that the water level decline was not permanent and, because of a wetter climate trend beginning in about 1983, appears to have begun a recovery. Fear of ground-water mining was also unfounded as shown by comparing water level behavior in the North Side Pumping Division area with that from a local area where ground-water mining is occurring. See figure 6 for comparison of a North Side Pumping Division water level hydrograph (well 2A824) and a ground-water mining hydrograph (well 11S/20E-24ddd1). Both hydrographs show yearly fluctuations dropping in spring or early fall and rising in fall or early spring, reflecting influences from major short-term recharge and discharge. The main difference between the hydrographs is shown on the long-term trend. The North Side hydrograph shows decline and recovery, whereas the ground-water mining hydrograph shows a continuing decline of about 40 feet in 9 years with no evidence of stabilizing or recovering. The North Side Pumping Division water levels will continue to decline and recover mostly influenced by climatic changes.

Ground-water mining is caused when discharge exceeds recharge and the decline trend will continue until the resource is exhausted or discharge is reduced to equal recharge. Discharge by pumping from the Snake Plain aquifer presently does not begin to approach recharge. Present net pumping is estimated at about 1.4 million acre-feet per year and recharge is estimated at about 8 million acre-feet per year. Thus, the aquifer can accommodate a substantial increase in ground-water pumping without showing alarming declines.



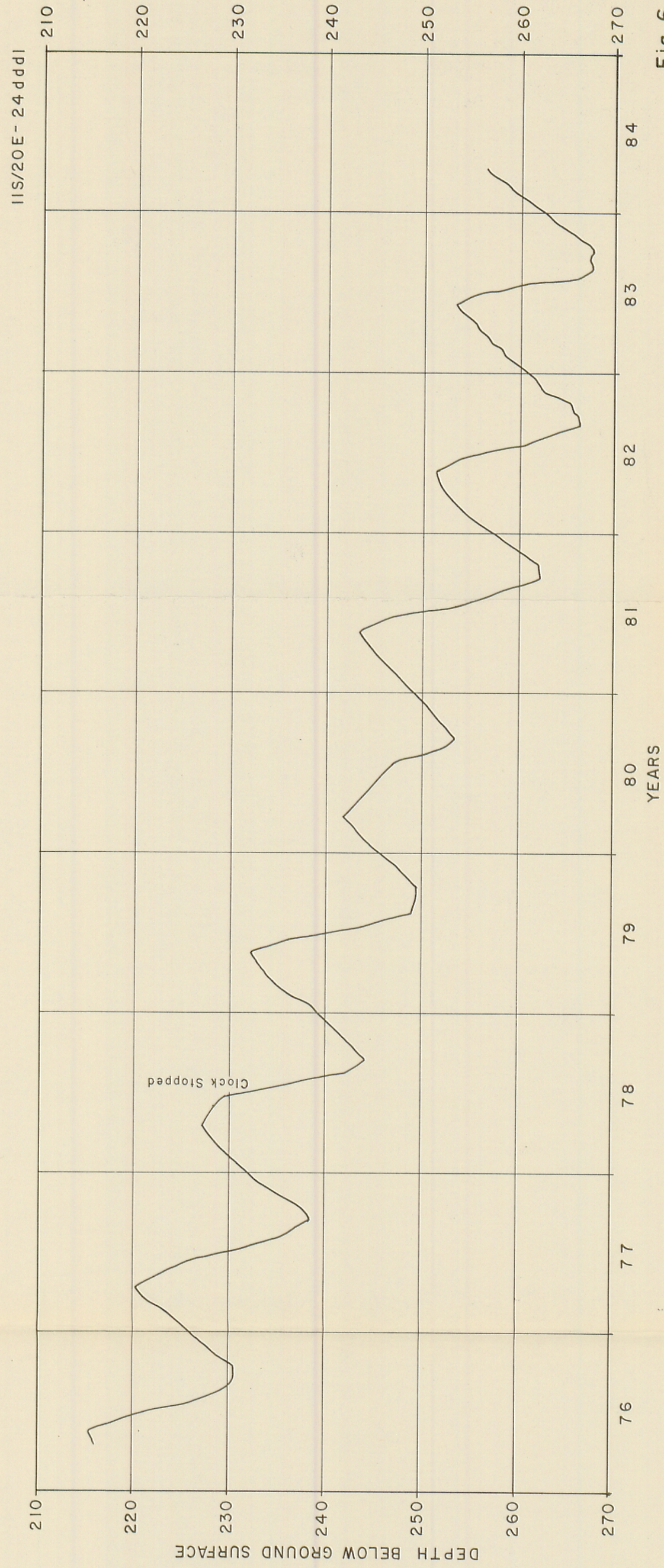
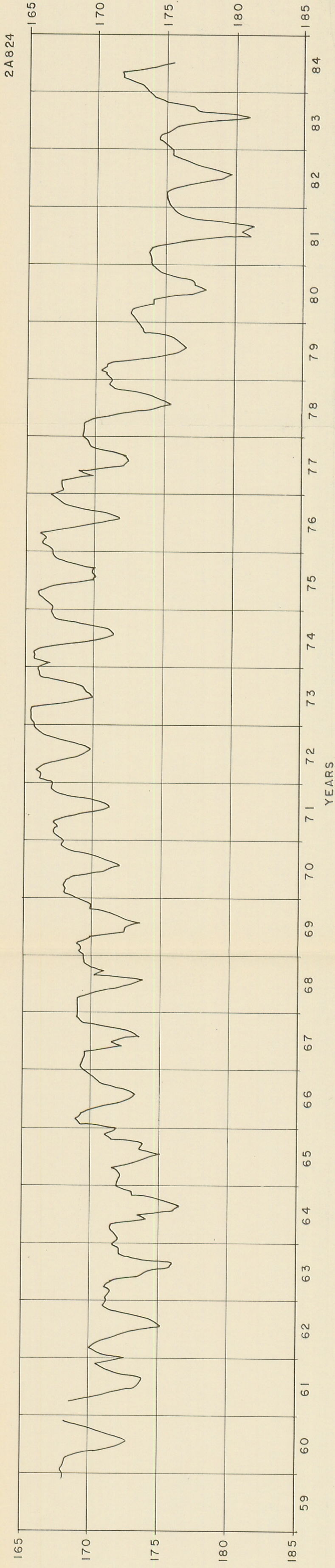


Fig. 6



### Summary and Recommendations

Since construction of the pumping division in the 1950's, well construction methods have changed, especially construction specifications written by Reclamation planners. The original 177 project production wells were drilled by drilling contractors using cable drills, and were completed using the usual completion methods at that time. Drilling was continued below the water table until the drill cuttings were "lost," which was apparently an indication of good yield. Construction completion usually consisted of installing surface casing with the balance of the well left "open hole." When caving conditions were encountered during the drilling, a casing liner was installed, generally just through the caving interval. The liner would be perforated when the caving interval was located within the "good" aquifer section of the well. After the well was completed, a pump test was run to determine the yield. If the yield was insufficient, the well would be deepened in hopes of encountering additional water.

These methods were workable, but generally did not allow for much lowering of the pump if the water level declined. The project was begun about the water level peak period and was completed during a water level decline period. More than one-half of the wells had less than 100 feet of saturated well bore; therefore, as the water levels declined, drawdown increased, the thickness of the saturated well bore thinned, and yield decreased. Deepening of many of the wells was undertaken before the project was completed. About one-half of the wells have been deepened to date (1984) and about one-half of the wells still have less than 100 feet of exposed aquifer.

Under the Recommended Plan, 17 wells (13 new and 4 existing) pumping an average of 14,700 acre-feet annually would provide a full irrigation service to 5,680 acres on eight of the Extension areas (5, 6, 7, 10, 13, 14, 15,

and 17). In addition to providing ground water to the eight Extension areas, 620 acre-feet (annual basis) of ground water will be pumped to 240 acres of square-up land scattered throughout Unit B, and 300 acre-feet (based on limited drainage data) of ground water will be pumped annually to supplement drainage flows to Extension Areas 11 and 12. The ground water pumped to the 240 acres of square-up land (620 acre-feet) and to Area 12 (100 acre-feet) will be provided from existing project wells. A new well will be constructed to provide the supplemental ground-water requirements to Area 11 (estimated at 200 acre-feet per year). This brings the total number of wells under the Recommended Plan to 18.

The plan also provides a replacement water supply for 810 acres of North Side Pumping Division land now irrigated from four project wells located near Extension Area 4 which have inadequate ground-water yields. The replacement water supply for these existing irrigated lands would be provided from the Snake River, and the four existing low yielding wells would be abandoned. This would reduce ground-water pumping by 2,100 acre-feet annually. Thus, the total net annual ground-water pumping requirements for the project would be 13,520 acre-feet annually ( $14,700 + 620 + 300 - 2,100 = 13,520$ ).

Table 2 is a list of proposed irrigation supply wells and construction specifications for the Extension lands. The depth to water and specific capacity were taken from the previously discussed maps; yearly fluctuations were estimated from well hydrographs and water level data from wells located near each proposed site. An estimated drawdown for each proposed well was based upon specific capacity and design yield. Pump lift is the sum of depth to water, yearly fluctuation, and drawdown and ranges from about 140 feet in tract 13 to about 365 feet in tract 5. The pump suction was placed about 10 feet plus length of the pump below the pump lift or pumping water level.

An additional 50 feet of pump chamber below pump suction was included to allow for pump lowering in case of further water level decline. Thus, the pump chamber includes depth to water, yearly fluctuation, drawdown, 10 feet of pump submergence, length of pump, and 50 feet additional hole. The estimated total depth includes the pump chamber plus additional hole below pump chamber depending upon required yield and well location. Wells with small yield of about 1,000 gallons per minute or slightly more may get by with a total depth near the pump chamber depth. Wells with large yield up to several thousand gallons per minute may require additional hole below the pump chamber. Maximum total depth may be to 250 feet or more of saturated basalt below the water table. Well diameter will depend upon water volume required at each site. Generally, 20-inch wells are recommended for 2,000 to 3,000 gallons per minute volumes and 24-inch for 4,000 to 5,000 gallons per minute volumes.

During the North Side Pumping Division well drilling in the 1950's, five wells were drilled and not used. These wells are located in tracts 15, 12, 10, and 6 of the Extension lands.

These wells include:

Tract 15-15A724.--A 16-inch diameter, 285-foot-deep well that should yield the required volume as it is constructed.

Tract 12-33A824.--A 20-inch-diameter, 235-foot-deep well that has been sold to the city of Rupert and is not available for use.

Table 2.--Proposed Irrigation Supply Wells and Construction Specifications

Tract Number	Well Number	Depth to Water feet	Yearly Fluctuation feet	Specific Capacity gal/min <sup>1/</sup>	Yield		Pump Length feet	Estimated			Total Depth feet	Well Casing Diameter inches
					Cubic Feet per Second	Gallons per Minute		Drawdown	Pump Chamber	Lift		
5	1	310	10	5,000	8	4,000	10	5	395	325	560	24
	2	320	10	5,000	8	4,000	10	5	405	335	570	24
	3	290	20	1,000	12	5,500	10	10	340	320	540	28
	4	340	15	1,000	9	4,000	10	10	435	365	590	24
	5	300	15	1,000	5	2,000	5	5	390	320	400	20
	6	300	10	500	4	1,800	5	5	380	315	400	20
	7	300	15	500	5	2,000	5	5	385	320	400	20
	8	310	10	500	3	1,500	5	5	390	325	400	18
6	1	300	10	1,500	7	3,000	5	5	380	315	500	24
	2	300	10	1,500	6	2,500	5	5	380	315	500	24
7		320	15	500	5	2,500	5	10	410	345	500	24
10	1	240	10	200	5	2,000	5	25	340	275	500	20
	2	230	10	3,000	7	3,500	5	5	310	245	500	24
11		150	10	1,000	2	900	5	5	230	165	230	16
13		120	10	1,000	7	3,500	5	10	205	140	370	24
14		150	10	1,000	2	1,000	5	5	230	165	250	16
15		220	10	2,000	2	900	5	5	300	235	325	16
17		150	15	500	7	3,000	5	10	240	175	400	22

NOTE:

Pump chamber includes:  
depth to water  
yearly fluctuation of water table  
drawdown  
length of pump  
10-foot submergence below lift  
50-foot additional hole for possible future pump lowering  
Total depth of well includes:  
pump chamber  
additional hole depending upon desired yield

<sup>1/</sup> Gallons per minute

Tract 10-25A822.--An 8-inch-diameter, 379-foot-deep well that should have a specific capacity of 100 to 500 gpm/ft which is sufficient, but the well is not capable of yielding 2,000+ gpm because of the small well diameter.

Tract 6-8A921.--A 24-inch-diameter, 383-foot-deep well, and 8B921 an 18-inch-diameter, 376-foot-deep well that should have a specific capacity of about 500 gpm/ft and; therefore, after deepening to about 500 feet, should be capable of yielding the required volume for this tract.

Some or all of these wells may need renovation to bring them up to current Reclamation standards. Renovation of the wells will depend upon the cost being enough less than the cost of a new well to justify the necessary work to bring them up to standard.

Generally, deepening is feasible but reaming to a larger diameter is not. According to Mr. Virgil Temple, formerly A&B Irrigation District Manager and

now with Reclamation, Water and Land Division, reaming costs about the same per foot as drilling a new well. The high cost is due to problems encountered and extra strain placed upon the drilling equipment.

Well construction should consist of drilling a hole of adequate diameter to the minimum total depth. The total depth can vary somewhat depending upon where the drill site is selected in each tract. The total depth is determined by selecting a depth where the pump can be placed allowing the pumped water level to remain at least 5 feet above the pump bowls after subtracting out drawdown from pumping and natural fluctuations of the water table. Below the pump intake, a pump chamber is drilled about 50 feet into the aquifer. The pump chamber is essentially that portion of the well where the pump is placed and must be deep enough to allow room to lower the pump in case of persistent water level declines. A well in Southern Tract 10 is in an area where the Specific Capacity of the aquifer is about 200 gpm/ft or less and therefore must have an even longer intake area. The deeper penetration of the aquifer utilizes a greater intake area for increased yield by placing the pump suction deeper to permit more drawdown.

The portion of the well deeper than 50 feet below the pump intake may be reduced in diameter. The reduction should decrease drilling costs and will not materially reduce the intake potential. The Johnson Well Screen Company has found that doubling the well diameter only increases yield by about 11 percent.

Casing must be placed in the upper portions of the well to seal out caving zones in the sediment and prevent aquifer pollution from surface waters. The balance of the well can be left open hole; however, for maximum pump protection, casing should be installed throughout the pump chamber.

The local drawdown radius of influence is rarely detectable in the North Side Pumping Division wells even where two wells are near each other. Therefore, it is not expected to be a problem with the proposed extension wells.

An additional water table decline of 1 or 2 feet may occur from pumping the new wells. Since the overall decline fluctuates with recharge, the actual decline may not be detectable once the wells are established.

Theoretically, the additional pumping for the Extension lands will cause a decrease in the flow at Thousand Springs. Historically, the decrease in flow at the springs has been less than the net withdrawal. Due to the very small increment of additional pumping relative to the existing pumping and because of lag time and attenuation it is unlikely any change in the flow at Thousand Springs can be identified as the effect of the additional pumping.

### CHAPTER 3--WATER RIGHTS

Any new water rights in the upper Snake River are in question because of the 1982 Idaho Supreme Court ruling. Therefore, a perspective of the so-called Swan Falls controversy is necessary to provide the setting for the water right situation for the North Side Pumping Division Extension.

Idaho Power Company's existing Swan Falls Powerplant is located on the Snake River south of Boise and downstream from the project area. Swan Falls Dam and Powerplant were built in the early 1900's. The Idaho Supreme Court ruled in 1982 that the Swan Falls water rights are not subordinate to later upstream depletions which have been made by irrigation. Under the subordination concept, the power rights would have been inferior to subsequent upstream irrigation water uses. The Supreme Court remanded to the District Court the question as to whether the Idaho Power Company has abandoned or eroded through nonuse some of its Swan Falls water rights.



The lengthy time and costs involved to resolve the Swan Falls issue through litigation may not have necessarily yielded a solution which would have reflected the interests of the participants as well as the public. Therefore, in an attempt to settle the problem, the Idaho Power Company and the State of Idaho identified and mutually agreed upon the following series of judicial, legislative, and administrative actions which should be taken in the public's interest:

1. The Snake River minimum streamflow at the Murphy gauge in the State water plan should be adjusted to 5,600 ft<sup>3</sup>/s during the nonirrigation season and 3,900 ft<sup>3</sup>/s during the irrigation season.
2. Each new development should be carefully scrutinized against public interest criteria.
3. The State should commence a general adjudication of the entire Snake River basin.
4. The State should establish an effective water marketing system.
5. State funding should be provided for hydrologic and economic studies to implement the State water plan in the most cost-effective and environmentally sound means.
6. Legislation should be enacted to clarify that proceeds from utility sales of hydropower water rights will benefit ratepayers. In March 1985, the required legislation was enacted by the Idaho State Legislature to modify and add the necessary language to Idaho Code which allows full realization of the negotiated contract between the State of Idaho and the Idaho Power Company.

The existing A&B Irrigation District water rights discussed in the "Water Resources" chapter have not been affected by the Swan Falls issue; however, the potential water supplies for the Extension project could be affected by this agreement. The Idaho Department of Water Resources will again begin

processing water right applications in the not-to-distant future. A ground-water right application (No. 368253) for the new Unit B lands was filed on November 23, 1984, and a surface-water right application (No. 01-7085) for the new Unit A lands was filed on April 22, 1985. The Idaho Department of Water Resources is defining the rules for new applications; Reclamation is working closely with Idaho Department of Water Resources to insure that all proposed water uses are covered by valid State water rights.

The American Falls and Palisades storage water rights discussed in "Water Resources" chapter were reviewed; about 790 acres of new Unit A lands were not included in the American Falls storage right, and about 1,200 acres of new Unit A lands were not included in the Palisades storage right. However, included in each storage right are Unit B lands served with ground water which do not utilize storage water. To include these new lands in the American Falls and Palisades storage rights, applications to change the place of use were filed with the Idaho Department of Water Resources for each reservoir. These applications transfer the storage water right of part of the Unit B lands discussed above to the new Unit A lands not included in the original filings.

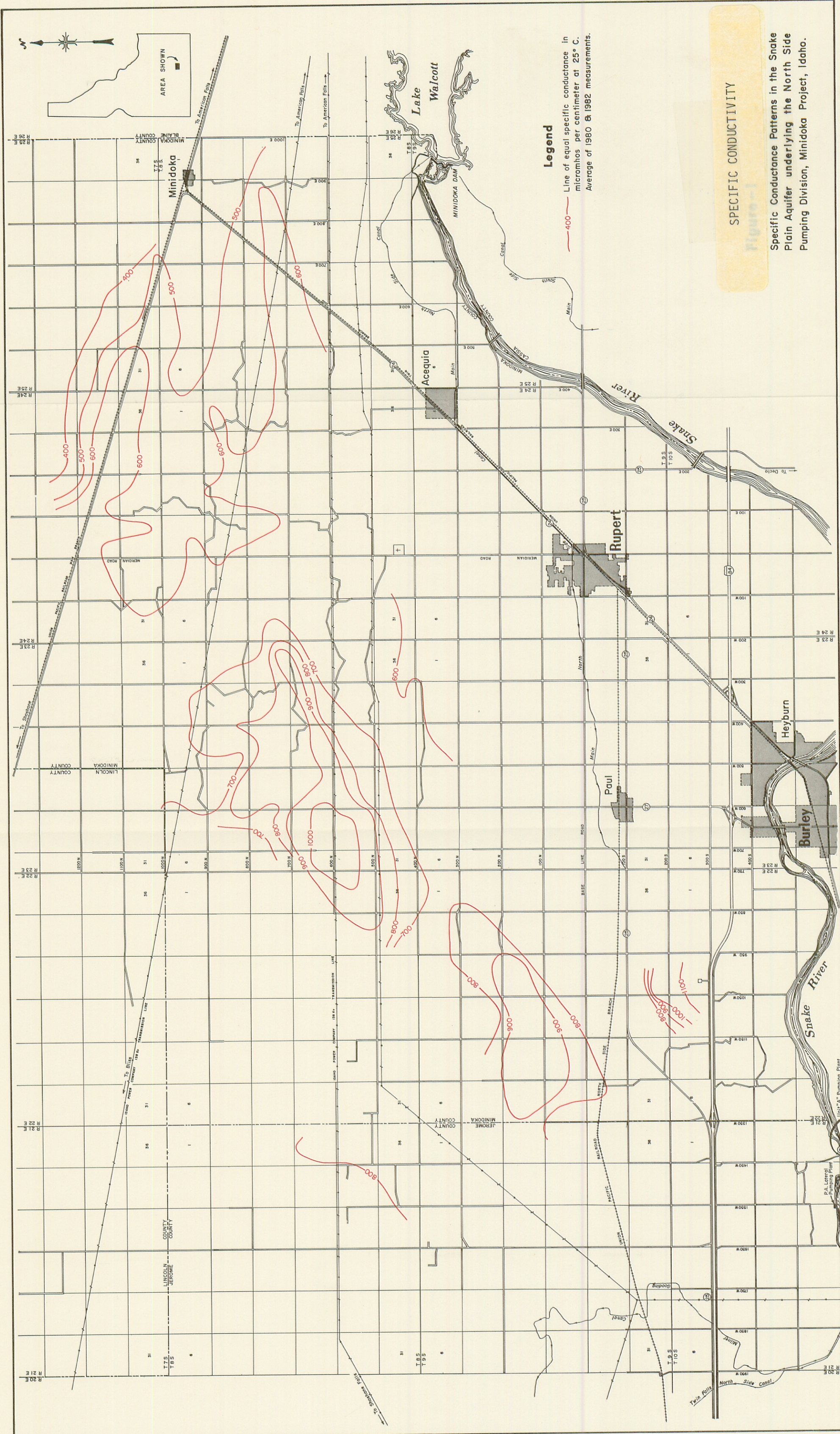
#### CHAPTER 4--WATER QUALITY

Irrigation water supplies for the North Side Pumping Division are withdrawn from the Snake River and from a series of wells on the project. Most surface drainage is accomplished by the use of injection wells which pass water directly into the underlying aquifer. Project wells, distribution, and drainage systems are shown on the map on the following page.









SPECIFIC CONDUCTIVITY

Specific Conductance Patterns in the Snake Side Plain Aquifer underlying the North Side Pumping Division, Minidoka Project, Idaho.

Legend  
— 400 —  
Line of equal specific conductance in micromhos per centimeter at 25° C.  
Average of 1980 & 1982 measurements.



### Irrigation Water Quality

The quality of water both in the Snake River (table 3) and in ground water pumped from the Snake Plain aquifer (table 4) is good for irrigation purposes. The electrical conductivity of production wells on the North Side Pumping Division was found to range from about 400 micro siemens per centimeter (uS/cm) to slightly above 1,000 uS/cm in a Bureau of Reclamation survey (see Specific Conductivity map). Although yield reductions on sensitive crops such as beans would be expected when irrigated with water having an electrical conductivity greater than 750 uS/cm, beans are generally not grown on areas of the project irrigated with ground water. The low sodium adsorption ratios of surface- and ground-water supplies indicate a low sodium (permeability) hazard. Further, soils in the area have good internal drainage, and no salt problems have occurred after irrigating more than 20 years.

Table 3.--Mean Value and Standard Error of the Mean for Water  
Quality Parameters from the Snake River near Burley, Idaho  
(Geological Survey Data)

Parameter	Snake River near Burley	Irrigation Criteria
Electrical conductivity (uS/cm)	445 + 8	<750
pH <sup>1/</sup> (standard units)	8.2 ± 0.1	4.5-9.0
Boron (mg/L) <sup>2/</sup>	--	<0.75
Calcium (mg/L)	47.0 + 1.0	--
Magnesium (mg/L)	15.6 ± 0.3	--
Sodium (mg/L)	19.27 ± 0.84	--
Sodium adsorption ratio (adjusted)	1.24 <sup>3/</sup>	<3
Chloride (mg/L)	19 + 1	<142
Bicarbonates (mg/L)	190 ± 4	--
Fecal coliform bacteria (counts per 100 mL <sup>4/</sup> )	11 <sup>5/</sup>	<1,000

1/ Hydrogen-ion concentration

2/ Milligram per liter

3/ Calculated from mean values

4/ Milliliter

5/ Geometric mean

Table 4.--Water Quality Characteristics of Representative Production Wells on Unit B, North Side Pumping Division--Chemical Data Were Collected in July 1977, Bacterial Data June 1984

Parameter	32A725	15D823	35D823	11B922	Irrigation Criteria
Electrical conductivity (uS/cm)	440	840 <sup>3/</sup>	583	857 <sup>3/</sup>	<750 <sup>1/</sup>
pH (standard units)	7.9	7.8	7.5	7.8	4.5-9.0 <sup>2/</sup>
Boron (mg/L)	0.12	0.15	0.08	0.15	<0.75 <sup>2/</sup>
Calcium (mg/L)	36.9	64.3	64.3	77.2	--
Magnesium (mg/L)	17.3	30.5	19.3	28.7	--
Sodium (mg/L)	27.13	59.77	29.66	59.54	--
Sodium Adsorption Ratio (adj. SAR)	1.65	3.60 <sup>3/</sup>	0.97	2.10	<3 <sup>1/</sup>
Chloride (mg/L)	34	83	27	57	<142 <sup>1/</sup>
Carbonates + bicarbonates (mg/L)	161	279	269	353	--
Fecal coliform bacteria (counts /100 ml)	<1	<1	<1	<1	<1,000 <sup>2/</sup>

1/ From: Ayers, R.S., and R.L. Branson, 1975, Water Quality Guidelines for Interpretation of Water Quality for Agriculture. Mimeograph, University of California Coop Extension Service.

2/ From Environmental Protection Agency, 1972, Water Quality Criteria, Publication No. EPA-R3-73-033, U.S. Government Printing Office, Washington, D.C.

3/ Problems for sensitive crops such as beans only (not generally cultivated on lands irrigated with ground water); soil permeability unaffected by SAR value

### Drainage Water Quality

Most irrigation return flows and storm runoff are disposed of through injection wells which pass water directly into the Snake Plain aquifer. Injected wastewaters occasionally contain sediments and coliform bacteria in excess of Idaho drinking water standards (Graham, Clapp, and Putkey, 1977) and have been linked to contamination of domestic wells in the area. Pesticides, herbicides, and trace metal concentrations in irrigation wastewaters were found to be within drinking water standards (Graham, Clapp, and Putkey, 1977). Careful management is required to prevent and correct domestic water quality problems.

Irrigation return flows entering disposal wells on the North Side Pumping Division do not consistently comply with Idaho standards for injected waters (table 5). Because of the potential for contamination of the Snake Plain

aquifer, Idaho regulations may require some changes in the way project injection wells are operated.

Table 5.--Range of Values for Chemical and Physical Parameters  
from Water Entering Representative Drain Wells on the  
North Side Pumping Division

Parameter	226825	2480824	Well 13AD1021	48D923	26CD823	Idaho Standard <sup>3/</sup>
Turbidity (Neph FTU)	2-140	13-260	34-90	2-7	55-300	100
Electrical Conductivity (uS/cm)	487-677	463-635	382-635	697-805	759-853	--
pH (standard units)	8.0-8.9	7.4-8.5	7.6-8.6	8.3-8.6	8.0-8.4	--
Suspended Solids (mg/L)	5-560	19-692	93-189	7-20	69-1,473	--
Nitrate + Nitrate-N (mg/L)	0.28-0.78	1.14-1.35	0.12-1.50	3.29-3.80	3.24-4.40	10
Total Organic Carbon (mg/L) <sup>1/</sup>	1.6	12.0	--	2.2	--	10
Color (Platinum-Cobalt units) <sup>2/</sup>	<5-5	<5	--	<5-5	--	100
Odor (TON at 60 degrees C) <sup>2/</sup>	<5-5	<5-5	--	<5-5	--	30
Fecal Coliform Bacteria (counts/100 ml) <sup>2/</sup>	80-330	200-3,300	--	10-400	--	500
Total Coliform Bacteria (counts/100 ml) <sup>2/</sup>	700-1400	7000	--	1000-6000	--	10,000

<sup>1/</sup> Results from single sample, July 1984

<sup>2/</sup> Results from 2 samples collected in June and July 1984

<sup>3/</sup> Existing drain wells

The injection well problem on the A&B Irrigation District was not addressed in the Extension study because of the short time frame, except that reuse of existing drain flows was incorporated into the proposed plan wherever feasible.

Considerable work has already been done by the State of Idaho (1983) and the Bureau of Reclamation on alternatives to the injection wells. Additional study efforts by Reclamation and A&B Irrigation District to gather necessary data and to develop a feasible solution to the injection well problem will continue concurrently with and beyond the Extension study.

### Impacts of Proposed Plan

The proposed Extension plan would involve a net pumpage of about 13,520 acre-feet from the Snake Plain aquifer and 12,300<sup>1/</sup> acre-feet from the Snake River. Present use of the Snake Plain aquifer for irrigation includes approximately 210,000 acre-feet per year on the North Side Pumping Division and an estimated total of 600,000 acre-feet per year on the entire lower Snake Plain area between Rupert and Thousand Springs, Idaho. Current average annual irrigation diversions from the upper Snake River system are estimated to be 8.2 million acre-feet per year.

Since all new Extension lands will be irrigated with sprinklers, return flows will be minimized and held in ponds for reuse or loss through evaporation and deep percolation. Although some increases in dissolved salts and the resultant electrical conductivity of the Snake Plain aquifer and Snake River could occur through deep percolation of return flows, this would be a slight impact, if measurable, because return flows from Extension lands would be a minor source of water and salts to both the aquifer and river. Since no return flows from new irrigation will be disposed of in injection wells, Extension lands would not contribute to bacterial and sediment problems in the Snake Plain aquifer.

Potential for reuse of existing irrigation return flows was examined under the Extension study as a partial solution to the injection well problem on the North Side Pumping Division. Reuse of drainwater from H Main Drain, (now entering drain wells 4BD923 and 5AD823, see A&B Irrigation District map) E Main Drain, and the F Main Drain (now entering drain wells 9AD824, 11AD823,

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<sup>1/</sup> The proposed surface-water pumping of 12,300 acre-feet includes 2,500 acre-feet for 810 acres of land presently served with ground water that would be served with Snake River water.



32AD824, and Cap Hawley) were found feasible; however, a new irrigation well would be required to augment the H Main Drain flows for much of the irrigation season, and existing project wells would be required to augment both early and late season drainwater flows in the E and F Main Drains. The records maintained on the drains and injection wells in the A&B Irrigation District indicate there is about 100 acre-feet per year available to the new lands at the terminus of H Main Drain (Area 11) and about 1,200 acre-feet per year available to the new land between E and F Main Drains (Area 12).

The quality of drainwaters proposed for reuse is suitable for irrigation (table 6). Reuse should produce a minor reduction in bacterial and sediment contamination of the Snake Plain aquifer.

Table 6.--Water Quality Characteristics of Drainage Water  
Proposed for Reuse under the North Side Pumping Division Extension  
Study--Data Were collected in September 1984

Parameter	"H Main" 4BD923	32AD824	"F Main" Cap Hawley	9AD824 <sup>4/</sup>	Irrigation Criteria
Electrical conductivity (uS/cm)	785	756	646	632	<750 <sup>1/</sup>
pH (standard units)	8.4	8.3	8.0	8.0	4.5-9.0 <sup>2/</sup>
Boron (mg/L)	0.33	0.55	0.58	--	<0.75 <sup>2/</sup>
Calcium (mg/L)	60.5	61.5	55.9	--	--
Magnesium (mg/L)	31.4	27.5	23.5	--	--
Sodium (mg/L)	64.14	57.48	45.75	--	--
Sodium Adsorption Ratio (adjusted)	3.58	3.30	2.79	--	<3 <sup>1/</sup>
Chloride (mg/L)	79	80	62	--	<142 <sup>1/</sup>
Carbonates + bicarbonates (mg/L)	265	248	227	--	--
Fecal coliform bacteria (counts/100 ml)	30	400	600	--	4,000 <sup>2/</sup>

<sup>1/</sup> From: Ayers, R.S. and R.L. Branson, 1975, Water Quality Guidelines for Interpretation of Water Quality for Agriculture. Mimeograph, University of California Coop Extension Service.

<sup>2/</sup> From: Environmental Protection Agency, 1972, Water Quality Criteria, Publication No. EPA-R3-73-033, U.S. Government Printing Office, Washington, D.C.

<sup>3/</sup> Problems for sensitive crops, such as beans only (not generally cultivated on lands irrigated with ground water); soil permeability unaffected by Sodium Adsorption Ratio.

<sup>4/</sup> Data collected in September 1983.

The Environmental Protection Agency has received a petition requesting designation of the Snake Plain aquifer as a sole source of drinking water. If the Snake Plain aquifer is designated a sole source of drinking water, Environmental Protection Agency would be required to review and approve projects which might contaminate the aquifer. It seems unlikely that sole source review would result in any changes in the proposed Extension plan because (1) no drainage water from Extension lands would be disposed of in existing drain wells, (2) no new drain well would be drilled to dispose of drainwater, and (3) some water now entering injection wells would be applied to new lands.

#### Future without Proposed Plan

The quality of water pumped from the Snake River and the Snake Plain aquifer to serve North Side Pumping Division lands is suitable for presently irrigated crops and is expected to remain suitable in the future. No major changes in the concentration of inorganic salts are expected in water supplied from either the Snake River or the Snake Plain aquifer since little additional irrigation development is projected in areas upgradient of the North Side Pumping Division.

Most surface drainage on North Side Pumping Division lands is accomplished through the use of injection wells which pass water directly into the Snake Plain aquifer. Irrigation return flows generally contain fecal coliform bacteria in excess of Idaho drinking water standards and have been linked to contamination of domestic wells in the area. Bacterial contamination of domestic wells in the Snake Plain aquifer is expected to decline in the future as problem disposal wells are identified, pollution sources cleaned up, and alternatives to present wastewater injection practices implemented as required by Idaho regulations governing use of disposal wells.

If the Snake Plain aquifer were designated as a sole source of drinking water, this designation is not expected to impact operation of existing irrigation and drainage facilities on the North Side Pumping Division because sole source review is not retroactive.

## CHAPTER 5--IRRIGATION WATER REQUIREMENTS

### Summary of Results

Average monthly diversion requirements and peak delivery requirements were estimated for the period 1965 to 1982 using representative climatological data. It was assumed all newly irrigated lands would be served by sprinkler systems having an irrigation efficiency of 70 percent. The delivery system serving lands in Unit A differs from the system serving lands in Unit B; therefore, separate water requirements were derived for each unit.

### Monthly Diversion Requirements

The average monthly and the average annual diversion requirements are presented in tables 7 and 8, respectively. These diversion requirements are adopted for use in project planning studies.

Table 7.--Average Monthly Diversion Requirements

Month	Distribution percent	Diversion Requirements	
		Unit A	Unit B
		- - - inches per acre - -	
April	1.7	0.65	0.54
May	8.7	3.25	2.71
June	25.9	9.67	8.04
July	36.3	13.55	11.27
August	17.7	6.62	5.51
September	7.5	2.82	2.35
October	2.2	0.81	0.67
Total	100.0	37.37 (3.11 feet)	31.09 (2.59 feet)

Table 8.--Annual Diversion Requirements

Source	Area acres	Annual Diversion Requirement acre-feet
Snake River supplies from North Side Pumping Division	3,950	12,300
Drainwater from existing North Side Pumping Division drains	580	1,500 <sup>1/</sup>
Ground water <sup>2/</sup>	<u>5,680</u>	<u>14,700</u>
Total	10,210	28,500

<sup>1/</sup> Drainwater would need to be augmented with ground-water pumping. For Area 12, existing project wells would be required to augment both early and late season drainwater flows. A new well would be required to augment H Main Drain flows for much of the irrigation season to serve lands in Area 11.

<sup>2/</sup> Does not include 240 acres of square-up lands scattered throughout Unit B. The annual diversion requirements for this land is 620 acre-feet and will be provided from existing project wells in Unit B.

#### Design Peak Delivery Rate

A peak farm delivery rate of 0.434 inch per day was estimated during the course of this study. This rate is well within acceptable limits; however, the ABID views the development of the Extension lands as a completion of the original project. In a letter to the Bureau of Reclamation dated May 24, 1984, the district states that they cannot support a peak net farm delivery in excess of 0.357 inch per day, which is the rate at which the current project is designed and operated. Therefore, a peak farm delivery of 0.357 inch per day was adopted for use in this study. This rate represents the capacity at the turnouts. Additional capacity is required for conveyance losses in the laterals and canals.

#### General

The irrigation water requirements are discussed in two sections. In the first section, monthly diversion requirements are computed based on average

monthly consumptive use (evapotranspiration) estimates. In the second section, a peak delivery requirement is estimated and used to develop pump, canal, and lateral sizing criteria.

All consumptive use estimates (monthly and peak) are accomplished using the Jensen-Haise procedure assuming a mean project elevation of 4250 feet. The Jensen-Haise equation for estimating reference evapotranspiration is:

$$E_{tr} = C_t(T - T_x)R_s$$

where:  $E_{tr}$  is reference ET based on alfalfa with 30 to 50 centimeters of top growth, inches per day.

$T$  is mean daily temperature, °F;

$T_x$  is the temperature axis intercept, °F;

$T_x = 27.5 - 0.25(e_2 - e_1) - (\text{elevation}/1000)$ .

$R_s$  is global solar radiation, calories per square centimeter per day (langleys/day), (multiplied by 0.000673 to obtain inches per day).

$C_T$  is an empirical coefficient;

$$C_t = 1/(C_1 + C_2 C_H)$$

$$C_1 = 68 - (3.6 \times \text{elevation}/1000)$$

$$C_2 = 13$$

$$C_H = 50/(e_2 - e_1)$$

$e_2$  and  $e_1$  are saturation vapor pressure ( $e_s$  in millibar) of water at the long-term (normal) mean maximum and mean minimum temperatures, respectively, for the warmest month (usually July) of the year for the study area.

The term "reference ET" has replaced "potential ET;" however, the computer output labeling has not been updated. Therefore, in this study, the two terms should be considered synonymous.

#### Section I--Monthly Diversion Requirement

Diversion requirements were derived by first determining the average monthly consumptive use of the crops projected to be grown. The basis of the

Jensen-Haise procedure is that consumptive use is a function of temperature and solar radiation given an adequate water supply. The effective precipitation is then subtracted from the estimated consumptive use to obtain the water needed to be supplied by irrigation. A farm irrigation efficiency is then applied to the crop irrigation requirement to obtain the farm delivery requirement. Losses associated with this efficiency are assumed to occur because of wind drift, application evaporation, runoff, and deep percolation. Expected seepage losses from conveyance systems along with operational spills are added to the farm delivery requirement to obtain the diversion requirement.

Consumptive Use.--The computer program XCIR was employed to aid in the computation of the monthly crop irrigation requirements. The program first computes reference evapotranspiration ( $E_{tr}$ ) from monthly values of solar radiation and temperature and then calculates crop evapotranspiration (ET) by multiplying the  $E_{tr}$  by an appropriate crop coefficient. The program also computes that portion of precipitation considered available to satisfy crop evapotranspiration requirements. Effective precipitation is a function of the total precipitation, rainfall intensity, infiltration rate of the soil, water holding capacity of the soil, and the evapotranspiration rate. The crop irrigation requirement is then computed as crop ET less the effective precipitation and any nongrowing season soil moisture carryover. Any excess soil moisture is considered runoff or deep percolation.

Data Input to XCIR.--Input data to the XCIR program includes average monthly temperature, monthly precipitation, average monthly solar radiation, maximum water holding capacity, and the projected crop distribution for the project area. Other input included the long-term average maximum and minimum temperatures in July, the growing seasons and cover dates for each crop, and crop coefficients.



Temperature and Precipitation.--Daily temperature and precipitation data have been collected continuously from May through September on the Minidoka North Side Project as part of an Irrigation Management Service (IMS) program. To utilize this data, a substantial number of temperature and precipitation values would have to be estimated for April and October because the growing season for the majority of the crops in this study begins in April, with approximately 50 percent of the crops growing into the month of October. Further, this data does not lend itself to utilizing the effective precipitation and carryover soil moisture routine in XCIR because this routine requires average monthly climatological data for the entire year. For these reasons an alternate weather station was selected to represent the Minidoka North Side Project.

The Twin Falls Weather Service Office (WSO) has collected daily temperature and precipitation data on a long-term basis. This station is located at the Idaho Water and Energy Resources Research Institute (Snake River Conservation Research Station, U.S. Department of Agriculture-Agricultural Research Service), Kimberly, Idaho, approximately 36 miles southwest of the project area. Although other stations were closer to the project area, this weather station was selected primarily because of its surrounding agricultural environment. Further, it is the nearest station which collects daily solar radiation throughout the year.

The Twin Falls average monthly temperature and precipitation data for a 17-year period (1965-72 and 1974-82) was compared to the IMS average monthly climatological data for the May through September period. As shown in table 9, the average monthly temperatures at Twin Falls are approximately 1 °F higher than the average monthly IMS temperatures. The average monthly

precipitation data compares quite favorably with the only exception occurring in September. In this case, the Twin Falls precipitation is slightly higher.

Table 9.--Comparison of Average Monthly Temperature and Precipitation, 1965-72 and 1974-82

Station	Climatic Variable	May	June	July	August	September <sup>1/</sup>
IMS	Temperature (°F)	52.9	61.1	68.0	66.3	57.3
	Precipitation (inches)	1.07	0.79	0.31	0.57	0.61
Twin Falls (WSO)	Temperature (°F)	53.7	62.1	69.1	67.3	58.2
	Precipitation (inches)	1.03	0.78	0.33	0.53	0.83

<sup>1/</sup> Represents the period 1965-72 and 1978-82

The consistent difference in temperature (1 °F) may be explained by the following reasons: first, the differences in the calibration of the temperature recording devices and second, the elevation of the Twin Falls station is 3960 feet which is 250 feet lower than the IMS station.

Three additional stations (adjacent to the project) were selected for annual temperature comparisons to assure the Twin Falls station was representative of the project area. They are Burley Federal Aviation Administration (FAA) at elevation 4157 feet; Minidoka Dam at elevation 4210 feet; and Paul at elevation 4210 feet. The average annual temperatures are compared for each station from 1965 through 1982 exclusive of 1975-76 period (Minidoka Dam has missing data in this period) in table 10.

Table 10.--Comparison of Average Annual Temperatures, 1965-74 and 1977-82

	Twin Falls	Burley FAA	Minidoka Dam	Paul
Temperature (°F)	47.7	47.8	48.1	47.1

There are no significant temperature differences among the four stations; therefore, it was assumed the Twin Falls station was representative of the project area and its data was used in the consumptive use computations. The period selected for computation was restricted to 1965 through 1982 due to the availability of the solar radiation data at the Twin Falls station. The monthly temperature data and precipitation data are summarized in tables 11 and 12, respectively.

Table 11.--Monthly Average Temperature in Degrees (Estimate),  
Temperature Data, Twin Falls WSO Elevation = 3960 Feet

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TEMPERATURE DATA, TWIN FALLS WSO ELEVATION= 3960 FT.												
YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1965	31.3	34.0	34.9	48.9	51.2	60.5	68.1	65.9	53.4	51.9	42.6	29.5
1966	29.4	30.5	38.8	46.1	58.5	62.1	70.2	67.8	62.7	46.9	40.6	29.3
1967	33.0	36.2	39.8	41.3	54.1	60.2	72.3	71.9	63.4	47.5	39.6	24.8
1968	27.5	36.3	42.0	43.3	54.1	62.8	70.7	62.6	57.1	47.4	37.3	28.6
1969	31.2	30.0	36.1	48.4	58.9	61.8	69.4	69.2	61.5	43.3	38.5	32.2
1970	32.7	38.0	38.3	40.6	53.8	62.7	69.6	69.9	53.5	44.8	39.1	28.2
1971	30.8	33.1	36.4	44.1	54.9	60.8	69.4	71.3	53.5	44.9	37.0	25.7
1972	26.0	31.4	42.7	44.6	54.8	63.6	67.3	68.6	54.6	47.8	36.1	23.5
1973	26.0	32.6	38.2	44.7	56.3	62.4	68.5	67.6	56.9	49.1	37.5	33.3
1974	24.9	33.6	38.2	45.3	53.4	66.2	68.9	65.8	59.5	48.5	38.5	30.2
1975	24.8	30.3	37.6	39.4	50.2	60.6	72.4	64.0	59.2	47.9	35.6	33.8
1976	28.8	29.6	33.4	44.7	55.9	59.7	69.3	63.4	59.6	47.4	39.3	29.9
1977	23.0	33.8	36.8	49.8	50.1	66.6	68.1	67.9	57.4	49.5	37.2	34.9
1978	33.6	34.3	43.8	45.9	51.4	61.0	67.8	64.2	56.9	49.7	34.3	25.1
1979	16.1	31.7	40.1	45.0	55.5	62.7	68.6	67.2	62.9	51.6	32.8	32.0
1980	26.1	36.6	38.0	48.9	53.1	60.4	68.9	64.7	59.0	48.3	37.7	33.1
1981	31.8	33.9	41.2	47.9	52.9	61.7	67.8	70.0	60.1	45.4	40.4	33.5
1982	23.3	26.2	39.2	42.0	52.0	61.4	66.6	69.0	58.2	46.1	34.2	29.5
MEANS	27.8	32.9	38.6	45.0	53.9	62.1	69.1	67.3	58.3	47.7	37.7	29.8

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Table 12.--Monthly Precipitation, Twin Falls WSO

MINIDOKA NS. EXT. ELEVATION= 4250 FEET

PRECIPITATION IN INCHES

\* VALUES BASED ON ESTIMATED TEMP AND OR PRECIP

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1965	.79	.21	.18	2.08	1.14	.51	.38	.87	.60	0.00	.74	.79	8.29:
1966	.36	.22	.85	.26	.33	.10	.33	.02	.16	.28	1.15	.56	4.62:
1967	.80	.10	1.20	1.90	.58	2.38	.29	.01	.28	.94	.36	.17	9.01:
1968	.76	1.68	1.00	.44	.93	.93	0.00	3.23	.29	.31	1.62	1.97	13.16:
1969	.51	.76	.08	.27	.12	1.01	.16	0.00	.85	.43	.68	1.23	6.10:
1970	3.38	.19	.57	.75	1.10	1.62	1.09	.05	1.03	.58	2.32	1.09	13.77:
1971	2.09	.31	.95	2.04	2.00	1.40	.01	.29	.75	.71	1.90	1.05	13.50:
1972	2.81	1.18	1.14	.35	.32	.90	.01	.32	.92	1.32	.89	1.36	11.52:
1973	.97	.38	1.84	1.00	.60	1.07	.50	.07	.89	.26	2.10	1.78	11.46:
1974	.75	.77	1.91	.70	.15	.25	.27	.08	0.00	1.19	.37	1.31	7.75:
1975	.84	1.71	2.18	1.44	2.79	.37	.45	.06	.02	2.59	.86	.49	13.80:
1976	1.52	1.29	.43	.87	.41	.81	.26	2.02	.79	.72	.10	0.00	9.22:
1977	.34	.22	.18	.14	1.86	.72	1.27	.36	.78	.04	1.77	2.03	9.71:
1978	1.32	.83	1.72	1.40	1.19	.14	.12	.22	2.41	.01	.52	.30	10.18:
1979	2.28	.49	1.13	.32	.73	.46	.11	.78	.02	.83	.82	.32	8.29:
1980	2.71	.88	.34	.88	2.74	.99	.18	.11	1.73	.34	.77	1.04	12.71:
1981	.51	.44	.45	1.92	.76	.28	.01	0.00	.35	1.21	1.72	2.95	10.60:
1982	.77	1.08	1.38	.94	.39	.52	.70	.43	1.48	1.60	.76	1.25	11.30:
AVE	1.31	.71	.97	.98	1.01	.80	.34	.50	.74	.74	1.08	1.09	10.28

Additional temperature input required for XCIR program is the average daily maximum and minimum temperatures for the warmest month. These average daily temperatures are utilized in the program to compute the temperature coefficient ( $C_t$ ) and the temperature intercept ( $T_x$ ). The warmest month for this area generally occurs in July, and the average daily maximum and minimum July temperatures for the 18-year period (1965-82) are 85.0 °F and 53.2 °F, respectively.

Solar Radiation.--Daily solar radiation data was also collected on the Minidoka North Side Project as part of the IMS program. For the reasons discussed in the temperature and precipitation section above, an alternate solar radiation station was selected to represent the project area.

The Twin Falls weather station average monthly solar radiation data is available from 1965 through 1982. As shown in table 13, the Twin Falls average monthly solar radiation data is very close to the average monthly IMS solar radiation (the period selected for comparison represents the available IMS data). Therefore, it was assumed the Twin Falls data was

representative of the project area and was adopted for use in the consumptive use computations.

Table 13.--Comparison of Solar Radiation Data

Station	Monthly Average--1965-72 and 1974-82				
	May	June	July	August	September <sup>1/</sup>
	----- langleys per day -----				
Minidoka IMS	548	616	632	549	434
Twin Falls WSO	566	620	636	545	428

<sup>1/</sup> September represents 1965-72 and 1978-82

The average monthly solar radiation from 1965 through 1982 is presented in table 14.

Table 14.--Monthly Average Solar Radiation in Langleys,  
Solar Radiation, Twin Falls WSO Elevation = 3960 Feet

SOLAR RADIATION, TWIN FALLS WSO ELEVATION= 3960 FT.												
YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1965	143.	290.	436.	464.	536.	607.	628.	537.	449.	352.	189.	149.
1966	159.	243.	384.	520.	620.	634.	663.	571.	431.	323.	191.	152.
1967	135.	278.	341.	404.	596.	562.	618.	579.	426.	315.	178.	132.
1968	175.	242.	373.	506.	590.	622.	675.	467.	454.	322.	185.	135.
1969	157.	235.	407.	527.	625.	568.	657.	574.	435.	297.	213.	116.
1970	136.	274.	336.	493.	584.	596.	618.	557.	438.	310.	184.	138.
1971	159.	248.	356.	418.	557.	620.	661.	540.	446.	297.	168.	153.
1972	182.	259.	369.	477.	571.	627.	668.	540.	406.	277.	158.	160.
1973	163.	266.	357.	499.	631.	649.	635.	560.	445.	314.	147.	106.
1974	153.	266.	344.	515.	637.	708.	658.	603.	518.	299.	188.	125.
1975	194.	236.	316.	392.	540.	621.	611.	571.	492.	284.	197.	145.
1976	166.	250.	391.	465.	611.	667.	634.	522.	441.	334.	227.	175.
1977	149.	271.	334.	521.	468.	603.	616.	487.	414.	310.	167.	114.
1978	138.	197.	338.	391.	540.	642.	621.	561.	399.	334.	165.	145.
1979	175.	211.	352.	463.	573.	639.	618.	469.	453.	279.	200.	134.
1980	150.	215.	319.	434.	478.	557.	573.	519.	372.	306.	184.	138.
1981	159.	248.	356.	466.	505.	646.	697.	606.	471.	254.	184.	138.
1982	173.	236.	303.	479.	595.	628.	603.	566.	390.	292.	185.	129.
MEANS	159.	248.	356.	469.	570.	622.	636.	546.	438.	306.	184.	138.

Crop Distribution and Growing Season.--The project crop distribution of the Minidoka North Side Extension is shown in table 15. The pattern is primarily based on historical cropping patterns of the A&B Irrigation District

and the Minidoka Irrigation District. The current historical pattern of the A&B Irrigation District would have been used except the Extension lands are expected to have more forages and less grains than the existing A&B Irrigation District cropping pattern.

Table 15.--Cropping Pattern

Crop	Percentage
Barley (spring)	15
Wheat (2/3 spring, 1/3 winter)	24
Dry beans	8
Sugar beets	26
Alfalfa hay	<u>27</u>
Total	100

Key planting, cover, and harvesting dates for the most prevalent crops grown near Kimberly, Idaho, are published by the Bureau of Reclamation in the "Technical Guideline for Estimating Agricultural Crop Water Requirements" dated September 1983. In 1970, the Soil Conservation Service (SCS) published an "Irrigation Guide for Southern and Southeastern Idaho" containing planting and harvesting dates for 17 crops grown in the Rupert, Idaho, area. These planting and harvest dates in the SCS guide for the above five crops compared favorably with the respective Reclamation technical guideline dates. The SCS irrigation guide lacks cover data information; therefore, the Reclamation irrigation guideline data was selected for the consumptive use computations. The appropriate growth stage data used in the XCIR program is illustrated in table 16.

Table 16.--Growth Stage Data

Crop	Month/Day			Time (Days)	
	Planting	Full Cover	Harvest	Planting to Full Cover	Full Cover to Harvest
Spring grains (barley, wheat)	4/04	6/20	8/10	80	55
Winter wheat	2/15 (10/10) <sup>1/</sup>	6/05	8/10	110	60
Dry beans	5/22	7/15	8/30	55	45
Sugar beets	4/15	7/10	10/15	85	95
Alfalfa hay cuttings <sup>2/</sup>	1st 4/01	5/01	6/15		76
	2nd 6/15		8/01		46
	3rd 8/01		9/15		46
	4th 9/15		10/30		46

<sup>1/</sup> Effective planting data used for computations; effective germination is spring green-up, actual dates in parentheses.

<sup>2/</sup> Effective planting data for established alfalfa is data growth begins in spring or at harvest of preceding crop; final harvest is data crop becomes dormant.

Soil Moisture.--A research program on "Use of Water on Federal Irrigation Projects" was conducted by Reclamation on the Minidoka North Side Pumping Division from 1964 through 1968. Soil moisture data was collected as part of this program for selected crops grown in the project area. This data is inclusive of the five crops in the proposed crop distribution and is summarized for each crop and the weighted crop distribution in table 17. The available soil moisture is defined as the amount of moisture available to the plant between field capacity (one-third atmosphere) and permanent wilting point (15 atmospheres). The usable soil moisture is the amount of soil moisture depletion at which optimum crop yields can be maintained.



Table 17.--Soil Moisture

Crop	Effective Root Zone feet	Available Moisture inches	Usable Moisture inches
Spring grains	3.0	7.8	3.9
Winter wheat	4.0	10.0	4.5
Dry beans	2.0	5.2	2.5
Sugar beets	3.0	7.8	3.5
Alfalfa	5.0	12.0	6.0
Weight crop distribution	3.5	8.9	4.3

In computing effective precipitation and accounting for soil moisture, the XCIR program requires maximum available water and an initial soil moisture content. The maximum available water for the crop distribution is 8.9 inches, and it was assumed for this study the initial soil moisture content was 4.3 inches.

Crop Coefficients.--Information for accessing computer programs and data files pertaining to evapotranspiration computations are included in the Reclamation "Technical Guideline for Estimating Agricultural Crop Water Requirements" (dated September 1983). One of these data files (CRPCOFM) contains crop coefficient data (based on data developed by Dr. Marvin Jensen, et al., in 1973) which is specifically formatted for use with the XCIR program. These crop coefficients were assumed applicable to the project area and were used in the monthly consumptive use computations.

Further, the computer program (PEAKWRN) used to compute the peak daily ET includes a subroutine with crop coefficient data. This data was compared with the respective coefficient data in the above file (CRPCOFM) for the five crops proposed to be grown, and no differences were noted.

XCIR Results and Comparison with Other Estimates.--The XCIR results consist of estimated monthly reference (potential) ET, estimated monthly ET

for each crop and the weighted crop distribution, and the estimated crop irrigation requirements for the weighted crop distribution.

A monthly summary of the weighted crop evapotranspiration (ET) for the period 1965 through 1982 is presented in table 18. The average annual weighted crop irrigation requirements (ET minus effective precipitation) for the 18-year period is 20.68 inches per acre. Monthly and annual tabulations of the crop irrigation requirement are found in table 19.

The computed average annual weighted crop irrigation requirement was compared with data in two publications, the SCS "Irrigation Guide for Southern and Southeastern Idaho" (dated 1970) and Bulletin 516, "Consumptive Irrigation Requirements for Crops in Idaho," published by the University of Idaho in 1970. In both publications, crop irrigation requirements are developed for Rupert, Idaho. As shown in table 20, the computed annual weighted crop irrigation requirement compares reasonably with the data contained in the above two publications.

Table 18.--Monthly Evapotranspiration in Inch,  
Minidoka North Side Extension Weighted Crops

MINIDOKA N.S. EXTENSION WIEGHTED CROPS													
YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1965	0.00	.01	.04	1.13	3.07	5.74	7.56	3.90	2.00	1.26	0.00	0.00	24.71
1966	0.00	.01	.05	1.16	4.30	6.21	8.30	4.31	2.40	1.00	0.00	0.00	27.74
1967	0.00	.01	.04	.75	3.70	5.28	8.05	4.72	2.41	.99	0.00	0.00	25.95
1968	0.00	.01	.05	1.02	3.67	6.19	8.53	3.17	2.23	1.01	0.00	0.00	25.88
1969	0.00	0.00	.04	1.26	4.38	5.53	8.11	4.45	2.36	.81	0.00	0.00	26.94
1970	0.00	.01	.04	.89	3.60	5.92	7.65	4.37	1.96	.89	0.00	0.00	25.33
1971	0.00	.01	.04	.87	3.53	5.90	8.16	4.35	1.99	.86	0.00	0.00	25.71
1972	0.00	.01	.05	1.01	3.61	6.34	7.92	4.14	1.87	.88	0.00	0.00	25.83
1973	0.00	.01	.04	1.06	4.15	6.40	7.70	4.21	2.17	1.04	0.00	0.00	26.78
1974	0.00	.01	.04	1.11	3.88	7.56	8.05	4.37	2.69	.97	0.00	0.00	28.68
1975	0.00	0.00	.04	.67	3.01	5.89	7.97	3.99	2.54	.91	0.00	0.00	25.02
1976	0.00	.01	.03	.98	3.98	6.19	7.81	3.60	2.29	1.05	0.00	0.00	25.94
1977	0.00	.01	.04	1.30	2.60	6.49	7.41	3.68	2.04	1.04	0.00	0.00	24.61
1978	0.00	.01	.05	.86	3.12	6.14	7.43	3.94	1.95	1.12	0.00	0.00	24.62
1979	0.00	0.00	.04	.99	3.69	6.34	7.51	3.50	2.54	.99	0.00	0.00	25.60
1980	0.00	.01	.04	1.05	2.89	5.25	7.00	3.68	1.91	.99	0.00	0.00	22.82
1981	0.00	.01	.05	1.10	3.04	6.28	8.34	4.77	2.48	.75	0.00	0.00	26.82
1982	0.00	0.00	.04	.92	3.49	6.06	7.05	4.37	1.96	.88	0.00	0.00	24.77
MEANS	0.00	0.00	.04	1.01	3.54	6.10	7.81	4.08	2.21	.97	0.00	0.00	25.76 25.76
MAX	0.00	.01	.05	1.30	4.38	7.56	8.53	4.77	2.69	1.26	0.00	0.00	
MIN	0.00	0.00	.03	.67	2.60	5.25	7.00	3.17	1.87	.75	0.00	0.00	
STDEV	0.00	.00	.01	.16	.50	.52	.43	.43	.26	.12	0.00	0.00	
KC	0.00	.01	.02	.28	.60	.81	.85	.54	.46	.37	0.00	0.00	

Table 19.--Monthly Crop Irrigation Requirements,  
Minidoka North Side Extension, Elevation = 4250 Feet

MINIDOKA NS. EXT. . ELEVATION= 4250 FEET

CROP IRRIGATION REQUIREMENT - INCHES \* VALUES BASED ON ESTIMATED TEMP AND OR PRECIP  
MIN. PCT. AWC END-OF-MONTH 100 100 100 100 90 90 90 90 90 90 90 90 8.9 INCHES AWC AT FIELD CAP  
AVAILABLE WATER HOLDING CAPACITY \* FIELD CAP TO WILTING PT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1965	0.00	0.00	0.00	0.00	1.16	5.28	7.22	3.12	1.46	1.26	0.00	0.00	19.50:
1966	0.00	0.00	0.00	.93	3.11	6.12	8.00	4.29	2.26	.75	0.00	0.00	25.46:
1967	0.00	0.00	0.00	0.00	2.29	3.25	7.79	4.71	2.16	.14	0.00	0.00	20.34:
1968	0.00	0.00	0.00	.62	1.94	5.35	8.53	.55	1.97	.73	0.00	0.00	19.71:
1969	0.00	0.00	0.00	1.02	3.38	4.62	7.97	4.45	1.60	.42	0.00	0.00	23.45:
1970	0.00	0.00	0.00	.22	1.73	4.49	6.67	4.33	1.03	.37	0.00	0.00	18.83:
1971	0.00	0.00	0.00	0.00	.89	4.66	8.15	4.09	1.32	.22	0.00	0.00	19.33:
1972	0.00	0.00	0.00	.70	2.43	5.53	7.91	3.85	1.04	0.00	0.00	0.00	21.46:
1973	0.00	0.00	0.00	.16	2.72	5.44	7.25	4.15	1.37	.81	0.00	0.00	21.89:
1974	0.00	0.00	0.00	.48	2.86	7.34	7.81	4.30	2.69	0.00	0.00	0.00	25.47:
1975	0.00	0.00	0.00	0.00	0.00	5.33	7.57	3.94	2.52	0.00	0.00	0.00	19.36:
1976	0.00	0.00	0.00	.20	2.72	5.46	7.58	1.84	1.58	.40	0.00	0.00	19.77:
1977	0.00	0.00	0.00	1.17	.08	5.84	6.28	3.36	1.34	1.00	0.00	0.00	19.07:
1978	0.00	0.00	0.00	0.00	1.17	6.01	7.32	3.74	0.00	1.00	0.00	0.00	19.25:
1979	0.00	0.00	0.00	.70	2.14	5.93	7.41	2.80	2.52	.24	0.00	0.00	21.75:
1980	0.00	0.00	0.00	.26	0.00	4.05	6.84	3.58	.39	.68	0.00	0.00	15.80:
1981	0.00	0.00	0.00	0.00	1.47	6.03	8.33	4.77	2.17	0.00	0.00	0.00	22.76:
1982	0.00	0.00	0.00	.07	2.25	5.59	6.42	3.98	.65	0.00	0.00	0.00	18.97:
AVE	0.00	0.00	0.00	.36	1.80	5.35	7.50	3.66	1.56	.45	0.00	0.00	20.68

Table 20.--Comparison of Results, Annual Crop Irrigation  
Requirement for the Weighted Crop Distribution

Item	XCIR Results	SCS Irrigation Guide	Bulletin 516 <sup>1/</sup>
Consumptive irrigation requirement (inches per acre)	20.68	20.29	21.42
Percent of XCIR results (percent)	--	98.1	103.6

<sup>1/</sup> Assumes that 8 out of every 10 years the crop irrigation  
requirement will be met.

The historic 20-year average (1963 through 1982) annual project farm  
delivery for the A&B Irrigation District was 3.06 acre-feet per acre  
(36.72 inches). Assuming an average annual consumptive irrigation requirement  
of 1.72 acre-feet per acre (20.68 inches), the average annual onfarm  
irrigation efficiency would be 56 percent.

### Farm Irrigation Efficiency

Initially, the majority of the project was gravity irrigated, but with the increased efficiency associated with sprinkler irrigation, approximately 30 percent of the project land has been converted to sprinkler irrigation (1983 crop census). Sprinkler irrigation properly adjusted to the soil infiltration rate is generally more efficient than gravity methods. The topography of the Minidoka North Side Extension is well suited for sprinkler irrigation, having average slopes of 2 to 4 percent. It was assumed that all newly irrigated lands in this project would be sprinkler irrigated and have an irrigation application efficiency of 70 percent.

### Redivertible Return Flows

The higher efficiency of sprinkler irrigation systems makes reuse of onfarm runoff uneconomical. The irrigators in the district exhibit good farming practices, and it was assumed the surface return flows from the new land would be insignificant and uneconomical to reuse. However, the aggregation of multiple farm runoff from the existing system may provide a portion of the irrigation demands to lands near the major drainageways within the project. The accumulated irrigation return flow and its reuse was discussed in the water supply section of this appendix.

### Conveyance System Losses

Water losses due to seepage and operational spills are termed conveyance losses. Monthly seepage losses were computed as a percentage of the annual diversion requirements using the district's historical records as the data base (period selected was 1963 through 1982). With project conditions, the Extension land in Unit A of the district will be served by enlarging existing canals (earth-lined), whereas new concrete-lined canals will be constructed to serve the new lands in Unit B. Therefore, diversion requirements were

computed for two conditions: (1) those lands served by the enlarged existing system (Unit A) and (2) those lands served by new concrete lined canals (Unit B).

The seepage computations were based on the channel seepage equation (assumes free drainage conditions) presented in the "Drainage Manual" published by the Bureau of Reclamation in 1978. To account for the additional seepage losses attributable to the new lands in Unit A, a typical cross section was selected for computations. The seepage loss was estimated for the existing section based on the district's records from 1963 through 1982, and then a new seepage loss was estimated for the enlarged canal section. The percent change in seepage losses associated with enlarging the selected canal section (required to meet the demands of the new lands in Unit A) was assumed to represent all enlarged canal sections and were attributed to the newly irrigated lands.

The A&B Irrigation District's records were examined from 1963 through 1982 for Unit A, and the average annual seepage loss for this 20-year period was 19 percent of the average annual diversion requirement. The annual seepage loss associated with the new lands served in Unit A (enlarged canal section) was estimated at 15 percent of the annual diversion requirement for the new lands.

Operational spills result from less than 100 percent efficient operation of the irrigation system. Unavoidable losses through waterways occur due to the improper timing of releases and diversions. After reviewing the historic records for the A&B Irrigation District, it was assumed operational losses for the new lands served in the Unit A would be 6 percent of the annual diversion requirements for the new lands.



Seepage losses and operational spills for the Extension land served in Unit B should be minimal. The new canals are concrete lined and very short in length. Although the existing canals in Unit B are short in length, the losses associated with the existing system will be slightly higher than the losses in the new system because the existing canals are not lined. The 20-year (1963-82) average annual conveyance losses (seepage plus operational) in Unit B were 8 percent of the average annual ground water pumped. Accounting for the concrete lining, it was assumed the total annual conveyance losses for the new lands would be 5 percent of the annual ground water pumped to the proposed new lands in Unit B.

#### Leaching Requirement

No additional water for leaching of salts would be required for any of the Extension lands. The present salinity level in the soils is very low. Irrigation water applied from either the Snake River or ground water would be of high quality.

#### Diversion Requirements

Summaries of the diversion requirements for the new land in Units A and B are presented in tables 21 and 22, respectively.

Table 21.--Diversion Requirements, New Lands Served by Unit A  
(inches per acre)

Month	Weighted Crop Irrigation Requirement	Farm Delivery	Conveyance Losses		Diversion Requirement
			Seepage	Operational	
April	0.36	0.51	0.10	0.04	0.65
May	1.80	2.57	0.49	0.19	3.25
June	5.35	7.64	1.45	0.58	9.67
July	7.50	10.71	2.03	0.81	13.55
August	3.66	5.23	0.99	0.40	6.62
September	1.56	2.23	0.42	0.17	2.82
October	0.45	0.64	0.12	0.05	0.81
Total	20.68	29.53	5.60	2.24	37.37

Table 22.--Diversion Requirements, New Lands Served by Unit B  
(inches per acre)

Month	Weighted Crop Irrigation Requirement	Farm Delivery	Conveyance Losses <sup>1/</sup>	Diversion Requirements
April	0.36	0.51	0.03	0.54
May	1.80	2.57	0.14	2.71
June	5.35	7.64	0.40	8.04
July	7.50	10.71	0.56	11.27
August	3.66	5.23	0.28	5.51
September	1.56	2.23	0.12	2.35
October	<u>0.45</u>	<u>0.64</u>	<u>0.03</u>	<u>0.67</u>
Total	20.68	29.53	1.56	31.09

<sup>1/</sup> Represents operational spills plus seepage losses

The plan would serve the Extension lands from three basic sources:

(1) Snake River pumping and the use of existing North Side Pumping Division (A&B Irrigation District) facilities, (2) the use of water from existing A&B Irrigation District drains, and (3) ground-water pumping to serve the lands in Unit B. The total area to be irrigated from each source and the annual diversion requirements are presented in table 23.

Table 23.--Annual Diversion Requirements by Source

Source	Extension Area acres	Annual Diversion Requirement acre-feet
Snake River supplies from North Side Pumping Division	3,950	12,300
Drainwater from existing North Side Pumping Division drains	580	1,500 <sup>1/</sup>
Ground water <sup>2/</sup>	<u>5,680</u>	<u>14,700</u>
Total	10,210	28,500

<sup>1/</sup> Drainwater would need to be augmented with ground-water pumping. For Area 12, existing project wells would be required to augment both early and late season drainwater flows. A new well would be required to augment H Main Drain flows for much of the irrigation season to serve lands in Area 11.

<sup>2/</sup> Does not include 240 acres of square-up lands scattered throughout Unit B. The annual diversion requirement for this land is 620 acre-feet and will be provided from existing project wells in Unit B.

## Section II--Peak Delivery Requirement

The frequency of irrigation is determined by the amount of usable soil moisture available for crop consumptive use. This study assumes no net withdrawal of usable soil moisture during the design peak consumptive use period. As a result, the number of days in the design peak consumptive use period equals the frequency of irrigation at peaking as determined by the usable soil moisture. This assumption is based on consumptive use data that indicate there can be several peak periods of about the same magnitude, and these periods can essentially occur back-to-back with little opportunity to replace any net withdrawal of soil moisture.

### Design Rate of Evapotranspiration

The design evapotranspiration rate was computed by use of the Engineering & Research Center computer program PEAKWRN (utilizing the Jensen-Haise procedure). First the program estimates daily ET, and then it identifies the peak daily moving mean evapotranspiration for a selected interval of days for each year of the period of record. The design rate for the selected interval is then defined as the mean annual peak daily evapotranspiration plus one standard deviation. The required delivery of soil moisture to the plants during the interval is then equal to the product of interval days and the design rate. The selected interval for a given crop or a weighted crop distribution equals the number of days between irrigations as determined by the usable soil moisture. This requirement assumes a zero net withdrawal of soil moisture during the peak consumptive use period. It is also assumed that the water consumptively used during the peak period will be entirely replaced by irrigation and that there will be zero effective precipitation.

Since the irrigation interval corresponding to the usable soil moisture cannot be known until the design rate is known, it was necessary to compute

design rates for several intervals and plot them against usable soil moisture. Using daily temperatures and solar radiation data, daily moving mean evapotranspiration values were computed for 1-, 3-, 7-, 10-, 15-, 20-, and 30-day intervals for each crop and crop distribution. Design rates of evapotranspiration for the project area were computed by adding one standard deviation to each yearly mean peak daily evapotranspiration.

#### Data Input to PEAKWRN

The basic data required in the computations of peak delivery requirements include project crop distribution, soil moisture data, daily temperature data, daily solar radiation, and crop coefficients. These parameters are thoroughly discussed in "Section I--Monthly Diversion Requirement;" however, one difference exists. The PEAKWRN program requires daily climatological data, whereas the XCIR required monthly climatological data. The availability of daily climatological data differs slightly from the monthly data used in section I in that the daily data is available from 1965 through 1980 (for the April through October period), whereas the monthly data is available from 1965 through 1982. Therefore, the period of record (1965-80) used in the peak delivery requirements will be 2 years shorter than the period (1965-82) used in the monthly diversion requirements.

#### PEAKWRN Results

A summary of the peak daily ET results are shown in table 24. These results are based on a mean project elevation of 4250 feet. The mean peak occurs in July for beans, sugar beets, alfalfa, and the weighted crop distribution, whereas, the mean peak for winter wheat occurs in June. The small grains (barley and spring wheat) mean peak occurs in June or July depending on the time interval.

Table 24.--Design Rate of Peak Evapotranspiration

Crop	Peak ET (inches/day)	Month of Occurrence
Spring grain	.334	June-July
Winter wheat	.303	June
Beans	.337	July
Sugar beets	.298	July
Alfalfa	.334	July
Weighted crop distribution	.304	July

The peak daily ET for several time intervals were plotted against usable soil moisture for each crop and the weighted crop distribution. The usable soil moisture for each crop and the weighted crop distribution are discussed in section I and presented in table 15. Entering the above curves with the appropriate usable soil moisture from table 15, the design peak evapotranspiration rates were computed for each crop as presented in table 24.

#### Comparison with Other Estimates

Peak daily ET at Rupert, Idaho, is published in the SCS "Irrigation Guide for South and Southeastern Idaho" (dated 1970) by soil type and associated slopes. A portneuf silt loam with a slope of 2 percent was selected to represent the project area. The peak daily ET for each crop and the weighted crop distribution from the above publication are listed in table 25. Table 26 compares the PEAKWRN results and the farm delivery requirement assuming a 70-percent irrigation efficiency.



Table 25.--Peak Daily Evapotranspiration  
(Mean Annual Plus One Standard Deviation),  
1965-80

TEMPERATURE & SOLAR RADIATION DATA AG RESEACH STATION KIMBERLEY								
LOCATION MINIDOKA NORTH SIDE EXTENSION			ELEVATION 4250. FT					
CROP	LENGTH OF PERIOD IN DAYS							
	1	3	5	7	10	15	20	
POTENTIAL ET								
PEAK ET (INCHES PER DAY)	.394	.382	.367	.359	.351	.344	.339	.331
PEAK ET X DAYS (INCHES)	.39	1.15	1.83	2.52	3.51	5.16	6.77	9.93
SMALL GRAINS								
PEAK ET (INCHES PER DAY)	.392	.381	.365	.356	.344	.332	.325	.310
PEAK ET X DAYS (INCHES)	.39	1.14	1.82	2.49	3.44	4.98	6.49	9.30
WINTER WHEAT								
PEAK ET (INCHES PER DAY)	.367	.348	.334	.327	.318	.305	.294	.276
PEAK ET X DAYS (INCHES)	.37	1.04	1.67	2.29	3.18	4.57	5.87	8.28
BEANS								
PEAK ET (INCHES PER DAY)	.358	.346	.342	.337	.331	.323	.315	.297
PEAK ET X DAYS (INCHES)	.36	1.04	1.71	2.36	3.31	4.85	6.31	8.90
SUGAR BEETS								
PEAK ET (INCHES PER DAY)	.344	.335	.325	.318	.311	.304	.298	.291
PEAK ET X DAYS (INCHES)	.34	1.00	1.62	2.23	3.11	4.56	5.96	8.72
ALFALFA								
PEAK ET (INCHES PER DAY)	.386	.374	.364	.356	.348	.338	.332	.321
PEAK ET X DAYS (INCHES)	.39	1.12	1.82	2.49	3.48	5.08	6.64	9.64
MINIDOKA N.S. EXT.								
WT 31 8 8 26 27 0 0 0								
PEAK ET (INCHES PER DAY)	.351	.340	.328	.321	.311	.304	.295	.284
PEAK ET X DAYS (INCHES)	.35	1.02	1.64	2.25	3.11	4.56	5.90	8.52

Table 26.--Comparison of Peak Evapotranspiration  
and Net Farm Deliveries

Crop	Peak Evapotranspiration	
	SCS Publication (inches/day)	PEAKWRN (inches/day)
Grains	0.23	0.32 <sup>1/</sup>
Beans	0.30	0.34
Sugar beets	0.28	0.29
Alfalfa	0.29	0.33
Weighted crop distribution	0.265	0.304
Farm delivery for the weighted crop distribution	0.379	0.434

<sup>1/</sup> Average of winter wheat and spring grains

The PEAKWRN results are consistently higher for beans, alfalfa, and grains. The pertinent data associated with peak daily consumptive use computations was reviewed, and the PEAKWRN results appeared to be reasonable and within acceptable limits.

Peak farm delivery data appears in the publication "Sprinkler Irrigation in the Pacific Northwest, A Troubleshooter's Guide." In this publication a range was developed for peak farm delivery in Idaho assuming sprinkler irrigation with an operation of 24 hours per day 7 days per week with an irrigation efficiency of 70 percent. The range developed for the project area was 0.34 to 0.45 inches per day (peak ET of 0.24 to 0.31 inches per day). The peak daily ET computed in PEAKWRN and peak daily ET published in the SCS guide fall within this range.

The existing project was designed and constructed on a peak farm delivery of 0.357 inches per day, which compares with the SCS data. In a letter from the A&B Irrigation District to the Bureau of Reclamation dated May 24, 1984, the district views the development of the Extension lands as a completion of the original project and recommends a peak farm delivery no greater than 0.357 inch per day. Assuming 70-percent irrigation efficiency, this would be a peak ET of 0.25 inches per day. The newly irrigated lands will be an extension of the project; therefore, it was assumed the irrigators would continue to diversify their crops. The peak rate of 0.357 inches per day is recommended for use to develop peak delivery requirements. This rate represents the capacity required at the turnouts and is not inclusive of conveyance losses in the laterals and the canals.

## CHAPTER 6--WATER UTILIZATION

Surface-water utilization for the Minidoka North Side Pumping Division Extension project was simulated by using the upper Snake River digital model based on the period 1928 through 1978. The Snake River model has been used in previous planning studies and subsequently was used in this study. There were no significant revisions to the model during this study; however, the data base used in the previous study was expanded to include an additional 10 years.

The model allows one to measure the impacts of any proposal on the upper Snake River system. The digital model operates the Snake River system of reservoirs and, whenever possible, provides a water supply to the users using natural flows, storage, and the rental pool. These three sources are utilized by a project or canal company in a specific order similar to the existing practices of the users. The reservoir contents and riverflow resulting under the proposed project conditions for the 51-year period examined can be seen on table 27 (units are in 100 acre-feet) at the end of this chapter.

Certain assumptions have been made which affect the values produced in the operation study. The most significant assumption involves the amount of storage space arbitrarily assigned to the Salmon Falls project which affects the yield from Ririe Reservoir. Since no final assignments have been made of Ririe storage at the time of this appendix, the ownership assignments will likely shift as the contracts are completed for the unassigned storage space.

The majority of the canals in the upper Snake River system do not have diversion records spanning the 51-year period examined (one of which is the A&B Irrigation District). To measure any impacts (such as the proposed project) on the Snake River system for an extended period, monthly diversion demands were estimated for the canals with limited records, and these estimates were based on selected canals (key canals) in the upper Snake River system which have long-term diversion records and have maintained the same irrigated area throughout the 51-year period. The monthly diversion demands computed for the existing and the new Unit A lands were based on the Twin Falls South Side Canal. These estimated demands differ slightly from historic records; however, operation model runs for the existing system indicate the total demand on the Snake River system is representative of actual practices. Further, natural flow and storage diversions were computed for the existing

Unit A lands using the model, and as illustrated in table 28, these results compare favorably with the historic operations for the 16-year period examined (the historic records and the model results overlap from 1963 through 1978).

Table 28.--Comparison of Results for Existing Unit A Lands  
(1963 through 1978)

	Natural Flow Diversions acre-feet	Storage Diversions acre-feet
Historical	21,740	34,890
Model <sup>1/</sup>	22,430	34,200

<sup>1/</sup> Assumes no shortages. The district's records indicate they did not experience a shortage during this period.

To effectively evaluate the impacts of the proposed new Unit A lands on the district's surface-water supply and considering the complexity of the model, the monthly irrigation demands of the new Unit A lands and the existing Unit A lands were combined and not treated as separate diversions. The irrigation diversions of the new lands represent about 18.2 percent of the combined irrigation demands. A summary of the model results with the combined irrigation demands are presented in table 29 (at end of this chapter).

The main intent of using the digital model is to ascertain the impacts on the district's surface-water rights and, more importantly, to assure an adequate water supply during dry periods. Under Idaho law, the district can only divert natural flow from the Snake River to the existing Unit A lands, however, due to constraints in the digital model, natural flow water was diverted to the new Unit A lands when it was available. The results presented in table 29 were examined, and this inconsistency had negligible effects during dry periods but provides a significant part of the diversion requirements of the new Unit A lands in wet years. Even though this



inconsistency has minimal effects during dry periods, the water supply was recomputed on an annual basis, assuming no natural flow diversions to the new lands. These results are presented in table 30, and selected years are summarized in table 31.

As previously discussed, the main factor which enables the district to provide a dependable water supply to the new land is the refill capabilities of American Falls. Under project conditions, the district received their full American Falls allocation in 49 out of the 51 years examined. In the 2 years (1934, 1960) the district did not receive a full allocation, they received 90 percent of the full allocation in 1 year and 98 percent in the other.

In 47 years of the 51-year period examined, part or all of the storage water diverted to the new Unit A lands came from American Falls Reservoir. The average American Falls storage diverted to the new lands over the 51-year period was 9,666 acre-feet or about 80 percent of the total storage water diverted to these lands. The model results indicate a dependable water supply can be provided to the proposed new Unit A lands under the district existing storage water rights without producing any significant impacts on the existing Unit A lands. The shortages which occur are voluntary in nature and are well within the accepted criteria adopted by the Bureau of Reclamation. A full discussion of the voluntary shortages is discussed later in this chapter.

Table 30.--Annual Summary, North Side Pumping Division Operation Study

Water Year	Irrigation Demand <sup>1/</sup>	Shortage <sup>2/</sup>	Water Supply		American Falls Storage Used	Palisades Storage Used <sup>3/</sup>
			Natural Flow <sup>3/</sup>	Storage Water		
			----- acre-feet -----			
1928	68,660	0	34,807	33,853	33,853	0
1929	67,060	0	26,269	40,791	40,791	0
1930	63,380	0	14,186	49,194	46,826	2,368
1931	62,490	0	10,024	52,466	46,826	5,640
1932	63,340	0	20,269	43,071	43,071	0
1933	69,240	0	21,970	47,270	46,826	444
1934	57,736	-14,511	3,690	39,535	39,535	0
1935	63,008	-21,336	18,900	22,772	22,772	0
1936	67,660	0	21,670	45,990	45,990	0
1937	65,700	0	16,955	48,745	46,826	1,919
1938	65,190	0	26,098	39,092	39,092	0
1939	68,910	0	12,000	56,910	46,826	10,084
1940	66,200	0	10,559	55,641	46,826	8,815
1941	64,090	0	5,638	58,452	46,826	11,626
1942	64,290	0	11,319	52,971	46,826	6,145
1943	66,220	0	32,842	33,378	33,378	0
1944	62,110	0	14,729	47,381	46,826	555
1945	65,070	0	25,238	39,832	39,832	0
1946	65,910	0	27,488	38,422	38,422	0
1947	66,370	0	27,367	39,003	39,003	0
1948	67,640	0	31,270	36,370	36,370	0
1949	67,410	0	21,410	46,000	46,000	0
1950	68,350	0	30,612	37,738	37,738	0
1951	68,170	0	26,596	41,574	41,574	0
1952	72,100	0	28,156	43,944	43,944	0
1953	70,240	0	20,724	49,516	46,826	2,690
1954	69,780	0	27,121	42,659	42,659	0
1955	68,360	0	22,249	46,111	46,111	0
1956	68,800	0	23,094	45,706	45,706	0
1957	67,710	0	24,926	42,784	42,784	0
1958	68,010	0	19,044	48,966	46,826	2,140
1959	66,350	0	28,744	37,606	37,606	0
1960	68,950	0	2,190	66,760	46,826	19,934
1961	65,410	0	7,630	57,780	45,687	12,093
1962	70,360	0	24,844	45,516	45,516	0
1963	69,260	0	23,486	45,774	45,774	0
1964	71,310	0	28,956	42,354	42,354	0
1965	71,610	0	28,553	43,057	43,057	0
1966	72,140	0	4,530	67,610	46,826	20,784
1967	73,320	0	25,988	47,332	46,826	506
1968	70,820	0	12,820	58,000	46,826	11,174
1969	72,240	0	9,598	62,642	46,826	15,816
1970	68,820	0	27,140	41,680	41,680	0
1971	70,920	0	28,826	42,094	42,094	0
1972	70,470	0	28,533	41,937	41,937	0
1973	68,450	0	11,782	56,668	46,826	9,842
1974	69,540	0	27,750	41,790	41,790	0
1975	66,090	0	28,952	37,138	37,138	0
1976	69,760	0	29,363	40,397	40,397	0
1977	60,346	-15,636	6,642	38,068	38,068	0
1978	63,080	0	35,984	27,096	27,096	0
-----						
Average	67,421	-1,010	21,167	45,244	42,448 <sup>1/</sup>	2,796
Average without shortages <sup>2/</sup>	67,421	0	21,167	46,253	43,089	3,164

1/ This value represents the combined irrigation demands of the existing Unit A land (81.8 percent) and the proposed new Unit A lands (18.2 percent).

2/ Irrigation shortages are voluntary in nature. Model results indicate there was sufficient storage in the 3 years to meet these shortages.

3/ Natural flow is only diverted to the existing Unit A lands

Table 31.--Summary of Results in Acre-feet,  
1928 through 1978

Event <sup>1/</sup>	Existing Unit A Land					Extension Unit A Lands				
	Irrigation Requirement	Shortage <sup>2/</sup>	Natural Flow Diversion	Storage Diversions		Irrigation Requirement	Shortage <sup>1/</sup>	Natural Flow Diversion	Storage Diversions	
				American Falls	Palisades <sup>3/</sup>				American Falls	Palisades <sup>3/</sup>
Wet year (1943)	54,141	0	32,842	21,299	0	12,079	0	0	12,079	0
Dry year (1934)										
With voluntary shortages	47,205	-11,864	3,690	31,661	0	10,531	-2,647	0	7,884	0
Without voluntary shortages	47,205	0	3,690	42,131	1,384	10,531	0	0	0	10,531
Typical year (1958)	55,605	0	19,044	36,561	0	12,405	0	0	10,265	2,140
Average 1928-78										
With voluntary shortages	55,123	-826	21,167	32,782	348	12,298	-184	0	9,666	2,448
Without voluntary shortages	55,123	0	21,167	33,956	348	12,298	0	0	9,481	2,816

<sup>1/</sup> Years selected were based on the historic data from 1928 through 1978 for the Snake River at Heise

<sup>2/</sup> Shortages are voluntary in nature and the digital model results indicate the district has sufficient storage space to adequately meet all of the irrigation requirements for the 51-year period examined

<sup>3/</sup> Prior to 1978, a conveyance loss was charged to Palisades storage when it was utilized. This has been discontinued and these values reflect current this change.

## Rental Pool

One main objective of the digital model was to maximize water utilization on the upper Snake River system. Projects and canal companies with the ability to contribute water to the rental pool were examined, and an arbitrary annual contribution was established for each entity. This contribution represents the maximum amount of storage water which can be contributed to the rental pool without producing significant impacts on the existing water supply. For the A&B Irrigation District, it was assumed all Palisades storage water in excess of 32,100 acre-feet (district's Palisades storage right is 90,800 acre-feet) would be made available to the rent pool. This rental pool limit value has remained the same in this study as it has throughout all previous planning project studies.

In the digital model, the entities storage water is reduced to the established rental pool limit during the month in which storage water is allocated to all users. Then, at the termination of each irrigation season, the unused portion of the rental pool is credited back to each contributing entity.

Presently, the A&B Irrigation District contributes 50,000 acre-feet of Palisades storage to the rent pool annually. An examination of the model results indicates the district could continue to contribute to the rent pool

and provide a dependable water supply to the proposed new Unit A lands. However, it may be prudent for the district to modify their contribution during dry periods.

### Shortages

There are three dry periods during the 51-year period examined, occurring in 1934, 1935, and 1977. In these years, voluntary water shortages were assigned to each project or canal company and were implemented to maximize water utilization and carryover storage. The shortages are input as a percentage of the monthly irrigation demands, and it was assumed the same percentage would apply to both the new and the existing Unit A lands. It should be emphasized that these shortages are only voluntary in nature, and the digital model results (table 29) indicated the district had sufficient storage to adequately meet all of the irrigation demands during the 3 years where voluntary shortages were implemented. Further, the district contributed storage water to the rental pool in all 3 years, and based on the model results the district should not experience water shortages under the Recommended Plan. During dry periods the district could modify or eliminate their contribution to the rental pool which would assure a full water supply to the existing system and the proposed project.

### Effects on the Upper Snake River System

Providing full irrigation service to lands within the A&B Irrigation District would have a negligible impact on upper Snake River system surface-water supplies. The Recommended Plan includes the use of Snake River water to provide full irrigation service to 3,950 acres<sup>1/</sup> of land located in

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<sup>1/</sup> Includes about 3,140 acres of new irrigated land and 810 acres of existing irrigated land requiring a replacement water supply.



Unit A of the A&B Irrigation District. Ground water would be pumped from the Snake Plain aquifer to provide full irrigation service to 5,680 acres of land in Unit B. As previously discussed, surface return flow under the Recommended Plan would be insignificant; however, irrigation losses due to deep percolation will ultimately end up in the Snake Plain aquifer.

Pumping from the Snake Plain aquifer does not approach recharge. Present pumping is estimated at 1.4 million acre-feet per year, and recharge is estimated at about 8 million acre-feet per year. The estimated net average annual ground-water requirement for the new Unit B lands is 13,520 acre-feet, about 1 percent of the present Snake Plain aquifer pumping. Under the Recommended Plan, the aquifer should accommodate the proposed ground-water pumping without showing any significant declines. Further, the effects of the additional pumping will not be identifiable at Thousand Springs.

The estimated annual surface-water requirement for the new Unit A land is 12,300 acre-feet and represents less than 0.5 percent of the 2.9 million acre-feet of combined active storage in these two reservoirs. Such a small percentage of the total storage could be released without measurably affecting water surface elevations at the two reservoirs.

Assuming an average annual diversion requirement of 12,300 acre-feet, the maximum increase in Snake River flows below American Falls Reservoir would be about  $60 \text{ ft}^3/\text{s}$  during the peak irrigation period. The average peak irrigation flow below American Falls is currently about  $12,200 \text{ ft}^3/\text{s}$ ; with the Extension project, this flow would increase by about 0.5 percent. This slight increase in flow is not significant. Comparing an average annual diversion requirement of 12,300 acre-feet to an average annual diversion of 8.2 million acre-feet (period of record 1928 through 1981) for the upper Snake River system, there would be less than a 0.2-percent change in total diversion requirements. Dry

and wet periods were also examined for these two cases, and the relative impacts on the upper Snake River system remained negligible.

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Table 27.--Column Description,  
Snake River Flow and Reservoir Contents

Column	Description
WYR	Water year of operation study
MO	Month of operation study
FCSPSN	Flood control space required on the main stem of the Snake River (hundreds of acre-feet)
FRCSTH	Heise runoff forecast from the beginning of the given month to July 31 (hundreds of acre-feet)
SYSCON SNAKE	The summation of the end-of-month contents of Jackson Lake, Palisades, and American Falls Reservoirs (hundreds of acre-feet)
SYSCON H. FORK	The summation of the end-of-month contents of Island Park Reservoir, Grassy Lake, and Henrys Lake (hundreds of acre-feet)
RENT POOL	Amount of water in the system which is available to be rented out to canal companies in need of supplemental water (acre-feet)
XCUT CANAL	Water diverted by the Crosscut Canal into the Teton River (acre-feet)
GAIN USED BY MINDKA BURLEY	Reach gains and return flows diverted to the Minidoka and Burley Irrigation Districts. These gains and return flow occur in reaches 108 and 109 of the Snake River (acre-feet)
TOTAL XCUT	Total water diverted into the Crosscut Canal from the Henrys Fork of the Snake River and the Falls River (acre-feet)
H.FORK SMSHRT	The summation of irrigation shortage incurred by the canals in the Henrys Fork of the Snake River (acre-feet)
JACKSON LAKE	(hundreds of acre-feet)
INFLOW	Inflow to Jackson Lake
EOM	End-of-month content of Jackson Lake
OUTFLO	Outflow from Jackson Lake
PALISADES	(hundreds of acre-feet)
INFLOW	Inflow to Palisades
EOM	End-of-month content of Palisades
OUTFLO	Outflow from Palisades
HEISE FLOW	SNAKE RIVER flow near Heise (hundreds of acre-feet)
HENRYS LAKE	(hundreds of acre-feet)
EOM	End-of-month content of Henrys Lake
OUTFLO	Outflow from Henrys Lake
ISLAND PARK	(hundreds of acre-feet)
INFLOW	Inflow to Island Park
SEEPAGE	Island Park seepage loss
EOM	End-of-month content of Island Park
OUTFLO	Outflow from Island Park
H.FORK ASHTON	Flow in the Henrys Fork of the Snake River near Ashton (hundreds of acre-feet)
GRASSY LAKE	(hundreds of acre-feet)
EOM	End-of-month content of Grassy Lake
OUTFLO	Outflow from Grassy Lake



Table 27.--Continued

Column	Description
FL RIV CHESTER	Fall River flow near Chester (hundreds of acre-feet)
H.FORK STANTY	Flow in the Henrys Fork at the Snake River near St. Anthony (hundreds of acre-feet)
TT RIV STANTY	Teton River flow near St. Anthony (hundreds of acre-feet)
H.FORK REXBRG	Flow in the Henrys Fork of the Snake River near Rexburg (hundreds of acre-feet)
SHELLY FLOW	Snake River flow near Shelly (hundred of acre-feet)
BLFT FLOW	Flow in the Snake River near Blackfoot (hundred of acre-feet)
AMERICAN FALLS	(hundreds of acre-feet)
INFLOW	Inflow to American Falls
EOM	End-of-month content of American Falls
OUTFLO	Outflow from American Falls
LAKE WALCOTT	(hundreds of acre-feet)
INFLOW	Inflow to Lake Walcott
EOM	End-of-month content of Lake Walcott
OUTFLO	Outflow from Lake Walcott
MILNER FLOW	Snake River flow past Milner Dam (hundreds of acre-feet)
RIRIE	(hundreds of acre-feet)
INFLOW	Inflow to Ririe
EOM	End-of-month content of Ririe
OUTFLO	Outflow from Ririe
DIVRTD	Option not used
DIVRTD	Ririe water diverted to Progressive Irrigation District's old lands (acre-feet)
PUMP	Option not used
FLOW148	Flow in reach 148 of the Snake River (hundreds of acre-feet)
OPCODES	Values establishing operating limits for the system. The codes set operation limits for the eight reservoirs presented, both in content and downstream reaches.

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

1-M

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WYR	MÓ	FCSPSN	FRCSTH	SNYCON	SNYCON	RENT	XCUT	GAIN	USED	BY	TOTAL	H. FORK
				SNAKE	H. FORK	POOL	CANAL	MINDKA	BURLEY		XCUT	SMSHRT
28	1	0.	0.	22541.	1774.	0.	0.	0.	0.	0.	0.	0.
28	2	0.	0.	26343.	1989.	0.	0.	0.	0.	0.	0.	0.
28	3	0.	0.	30021.	2063.	0.	0.	0.	0.	0.	0.	0.
28	4	0.	4490.	32788.	2133.	0.	0.	0.	0.	0.	0.	0.
28	5	0.	4372.	35825.	2174.	0.	0.	0.	0.	0.	0.	0.
28	6	0.	4244.	37211.	2345.	0.	0.	0.	0.	0.	0.	0.
28	7	600.	4104.	37660.	2345.	0.	0.	0.	0.	0.	0.	0.
28	8	1180.	3794.	39128.	2345.	0.	0.	0.	0.	0.	0.	0.
28	9	340.	1571.	39929.	2314.	60158.	0.	0.	0.	0.	0.	-531.
28	10	40.	648.	34467.	2167.	316559.	0.	0.	5600.	0.	0.	-92.
28	11	0.	0.	25981.	1975.	157368.	0.	6240.	3360.	8580.	0.	0.
28	12	0.	0.	21798.	1784.	126322.	0.	0.	0.	0.	0.	0.
		2160.	23223.	383693.	25406.	660406.	0.	6240.	8960.	8580.	-623.	
29	1	0.	0.	22174.	1806.	0.	0.	0.	0.	0.	0.	0.
29	2	0.	0.	25072.	1815.	0.	0.	0.	0.	0.	0.	0.
29	3	0.	0.	27795.	1824.	0.	0.	0.	0.	0.	0.	0.
29	4	0.	3393.	31285.	2040.	0.	0.	0.	0.	0.	0.	0.
29	5	0.	3097.	34729.	2054.	0.	0.	0.	0.	0.	0.	0.
29	6	0.	2866.	37571.	2234.	0.	0.	0.	0.	0.	0.	0.
29	7	0.	2638.	38514.	2290.	0.	0.	0.	0.	0.	0.	0.
29	8	90.	2401.	39804.	2324.	22153.	0.	0.	0.	0.	0.	0.
29	9	0.	1294.	40351.	2329.	335306.	0.	0.	2996.	0.	0.	0.
29	10	0.	443.	31779.	2117.	270928.	0.	0.	0.	7207.	0.	0.
29	11	0.	0.	22257.	1885.	105338.	0.	9425.	5075.	12519.	0.	0.
29	12	0.	0.	19589.	1704.	82843.	0.	36725.	19775.	0.	0.	0.
		90.	16132.	370921.	24420.	816569.	0.	46150.	27846.	19725.	0.	
30	1	0.	0.	20338.	1726.	0.	0.	0.	0.	0.	0.	0.
30	2	0.	0.	22827.	1868.	0.	0.	0.	0.	0.	0.	0.
30	3	0.	0.	27067.	1889.	0.	0.	0.	0.	0.	0.	0.
30	4	0.	3380.	30584.	2125.	0.	0.	0.	0.	0.	0.	0.
30	5	0.	3098.	34679.	2144.	0.	0.	0.	0.	0.	0.	0.
30	6	0.	2885.	36215.	2336.	0.	0.	0.	0.	0.	0.	0.
30	7	0.	2655.	37923.	2337.	0.	0.	0.	0.	0.	0.	0.
30	8	0.	2195.	38276.	2251.	313911.	0.	0.	0.	0.	0.	0.
30	9	0.	1085.	35603.	2283.	313517.	0.	0.	0.	947.	0.	0.
30	10	0.	382.	17278.	1758.	307593.	0.	195.	105.	9267.	0.	0.
30	11	0.	0.	22337.	1698.	306918.	0.	5460.	2940.	4197.	0.	0.
30	12	0.	0.	18746.	1768.	294629.	0.	15015.	8085.	1776.	0.	0.
		0.	15680.	351872.	24184.	*****	0.	20670.	11130.	16187.	0.	

## UPPER SN RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

1-M

WYR	MO	JACKSON LAKE				PALISADES				HEISE FLOW	HENRYS LAKE				ISLAND PARK				H. FORK ASHTON				GRASSY LAKE			
		INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM		OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO			
28	1	440.	4965.	440.	2684.	13382.	1845.	2180.	830.	0.	358.	0.	791.	358.	871.	152.	3.									
28	2	610.	4965.	610.	2653.	12906.	3129.	3460.	843.	12.	392.	0.	994.	190.	709.	152.	4.									
28	3	494.	4965.	494.	2273.	12429.	2749.	3033.	843.	25.	320.	0.	1068.	246.	733.	152.	5.									
28	4	400.	5335.	31.	1793.	11953.	2269.	2539.	843.	25.	316.	0.	1138.	246.	682.	152.	4.									
28	5	264.	5570.	29.	1370.	12748.	575.	775.	843.	24.	271.	0.	1179.	230.	668.	152.	4.									
28	6	325.	5864.	31.	1657.	13790.	615.	858.	843.	25.	324.	0.	1350.	153.	636.	152.	4.									
28	7	500.	6301.	29.	2980.	13640.	3098.	3282.	843.	27.	366.	0.	1350.	354.	876.	152.	5.									
28	8	4850.	8054.	3035.	16053.	13174.	16472.	17435.	843.	96.	733.	0.	1350.	711.	1655.	152.	36.									
28	9	3033.	8284.	2702.	10723.	13745.	10086.	10697.	843.	50.	447.	0.	1319.	446.	1030.	152.	22.									
28	10	1829.	8156.	1845.	7500.	14000.	7168.	7591.	843.	15.	356.	0.	1172.	461.	984.	152.	14.									
28	11	692.	6896.	1845.	4588.	12411.	6107.	6451.	778.	61.	370.	0.	1044.	461.	944.	152.	9.									
28	12	389.	5733.	1488.	3530.	11911.	3988.	4233.	718.	60.	357.	0.	935.	446.	941.	130.	29.									
		13826.	75089.	12578.	57804.	156089.	58103.	62536.	9914.	420.	4610.	0.	13690.	4303.	10730.	1802.	138.									
29	1	350.	5733.	315.	2226.	12266.	1845.	2127.	748.	0.	311.	0.	926.	311.	817.	132.	0.									
29	2	238.	5733.	238.	1844.	12013.	2097.	2327.	754.	0.	282.	0.	926.	282.	785.	135.	0.									
29	3	336.	5733.	336.	1668.	11760.	1921.	2129.	760.	0.	245.	0.	925.	246.	739.	139.	0.									
29	4	295.	5997.	31.	1329.	12166.	922.	1121.	767.	0.	237.	0.	1131.	31.	519.	142.	0.									
29	5	273.	6242.	28.	1280.	12891.	555.	746.	774.	0.	226.	0.	1135.	222.	678.	145.	0.									
29	6	272.	6484.	31.	1292.	13548.	635.	826.	782.	0.	231.	0.	1304.	61.	566.	148.	0.									
29	7	383.	6802.	30.	1834.	14000.	1350.	1467.	790.	0.	252.	0.	1350.	195.	754.	150.	0.									
29	8	1557.	8267.	30.	5576.	13937.	5591.	5987.	822.	0.	515.	0.	1350.	493.	1410.	152.	14.									
29	9	3245.	8470.	2940.	10020.	14000.	9890.	10464.	843.	45.	462.	0.	1334.	446.	1084.	152.	27.									
29	10	1268.	7782.	1845.	5894.	12174.	7646.	7958.	843.	10.	291.	0.	1122.	461.	918.	152.	10.									
29	11	579.	6410.	1845.	4087.	9555.	6646.	6931.	766.	61.	341.	0.	967.	461.	943.	152.	5.									
29	12	373.	5232.	1488.	3632.	10216.	2935.	3190.	722.	60.	351.	0.	853.	446.	872.	130.	27.									
		9169.	78885.	9155.	40681.	148526.	42034.	45273.	9372.	175.	3743.	0.	13322.	3656.	10086.	1726.	83.									
30	1	260.	5232.	225.	1975.	10324.	1845.	2096.	751.	0.	278.	0.	844.	278.	713.	132.	0.									
30	2	144.	5232.	144.	1577.	10562.	1339.	1536.	779.	0.	224.	0.	956.	112.	547.	134.	0.									
30	3	275.	5232.	275.	1648.	11287.	922.	1128.	807.	0.	236.	0.	946.	246.	692.	137.	0.									
30	4	241.	5442.	31.	1180.	11545.	922.	1096.	836.	0.	235.	0.	1150.	31.	446.	139.	0.									
30	5	264.	5678.	28.	1096.	12086.	555.	721.	843.	22.	233.	0.	1161.	222.	597.	141.	0.									
30	6	226.	5873.	31.	1387.	12813.	660.	858.	843.	30.	256.	0.	1350.	67.	514.	143.	0.									
30	7	705.	6515.	30.	3696.	14000.	2478.	2710.	843.	29.	424.	0.	1350.	412.	1129.	144.	0.									
30	8	1920.	8245.	127.	5502.	14000.	5454.	5858.	843.	33.	389.	0.	1256.	461.	977.	152.	6.									
30	9	2174.	8470.	1848.	8430.	14000.	8362.	8860.	843.	39.	343.	0.	1288.	281.	686.	152.	15.									
30	10	1106.	7620.	1845.	5418.	12542.	6801.	7089.	819.	0.	260.	0.	787.	723.	1121.	152.	5.									
30	11	739.	6408.	1845.	4464.	13234.	3704.	4049.	788.	61.	371.	0.	758.	369.	740.	152.	4.									
30	12	372.	5229.	1488.	3449.	12759.	3880.	4119.	740.	60.	320.	0.	898.	163.	528.	130.	26.									
		8426.	75176.	7915.	39821.	149151.	36922.	40120.	9736.	274.	3569.	0.	12743.	3365.	8690.	1705.	56.									

UPPER SNAKE RIVER DIGITAL MODEL												1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS												1-M
FL RIV H.FORK TT RIV TT RIV H.FORK SHELLEY BLKFT AMERICAN FALLS LAKE WALCOTT																								
WYR	MO	CHESTR	STANTY	STANTY	OUTFLO	REXBRG	FLOW	FLOW	INFLOW	INFLOW	OUTFLO	INFLOW	INFLOW	OUTFLO	OUTFLO	FLOW								
28	1	406.	1218.	391.	222.	1439.	1504.	649.	2792.	3676.	2882.	2879.	699.	1976.	728.									
28	2	586.	1156.	360.	305.	1338.	4157.	4289.	6179.	7972.	1883.	2012.	700.	2012.	1327.									
28	3	393.	968.	340.	327.	1165.	4065.	3601.	5549.	12109.	1412.	1620.	700.	1620.	1594.									
28	4	368.	976.	310.	305.	1219.	3551.	3284.	5160.	15000.	2269.	2260.	970.	1990.	2201.									
28	5	365.	890.	290.	289.	1038.	1521.	1572.	3359.	17000.	1359.	1325.	970.	1325.	1486.									
28	6	408.	851.	390.	389.	1051.	1587.	1474.	3556.	17000.	3556.	3490.	970.	3490.	3562.									
28	7	477.	1008.	492.	457.	1178.	3641.	3086.	4873.	17000.	4694.	4639.	970.	4159.	2956.									
28	8	1908.	3039.	1925.	1561.	4121.	18930.	17526.	19098.	17000.	18827.	18877.	970.	17259.	12598.									
28	9	808.	1348.	1052.	535.	1935.	8829.	7455.	9284.	17000.	8901.	9105.	970.	7622.	2579.									
28	10	281.	768.	792.	313.	981.	2413.	527.	2378.	11411.	7355.	7407.	952.	5705.	200.									
28	11	223.	683.	462.	132.	619.	1930.	307.	2021.	5774.	7176.	7181.	952.	5546.	200.									
28	12	219.	933.	382.	143.	1072.	1614.	297.	2060.	3254.	4375.	4372.	699.	3462.	50.									
		6441.	13838.	7186.	4978.	17156.	53742.	44067.	66309.	144197.	64691.	65169.	10522.	56166.	29481.									
29	1	287.	1015.	340.	156.	1131.	1977.	934.	2922.	3674.	2420.	2602.	700.	2010.	770.									
29	2	343.	1091.	300.	240.	1306.	3117.	3122.	4982.	6815.	1842.	1980.	700.	1979.	1415.									
29	3	304.	974.	260.	247.	1180.	3190.	2816.	4472.	9802.	1485.	1542.	700.	1542.	1632.									
29	4	305.	677.	240.	235.	777.	1655.	1326.	2851.	12624.	30.	400.	700.	400.	566.									
29	5	283.	813.	210.	209.	875.	1333.	993.	2519.	15101.	42.	106.	700.	106.	112.									
29	6	318.	707.	370.	369.	901.	1414.	1541.	3448.	17000.	1549.	1743.	970.	1473.	1547.									
29	7	320.	898.	387.	352.	1131.	2540.	2115.	4104.	17000.	3925.	4196.	970.	3989.	3289.									
29	8	969.	1855.	764.	400.	1809.	5108.	3598.	5798.	16700.	5836.	5891.	951.	4627.	0.									
29	9	1226.	1825.	1096.	513.	2047.	7677.	5515.	7237.	16981.	6579.	6581.	951.	5061.	0.									
29	10	229.	603.	615.	192.	691.	2209.	307.	2101.	10923.	7557.	7456.	952.	5780.	200.									
29	11	77.	420.	405.	87.	277.	1954.	307.	2109.	5393.	7155.	7140.	952.	5542.	200.									
29	12	146.	762.	363.	124.	907.	1386.	297.	1917.	3242.	3880.	4044.	699.	3164.	50.									
		4807.	11641.	5350.	3124.	13033.	33561.	22872.	44461.	135255.	42299.	43680.	9944.	35673.	9781.									
30	1	230.	866.	345.	158.	1007.	1623.	888.	2892.	4282.	1767.	1800.	700.	1238.	147.									
30	2	220.	771.	277.	217.	1009.	1976.	2132.	3962.	6519.	1725.	1816.	700.	1815.	1224.									
30	3	250.	890.	276.	262.	1128.	2154.	2391.	4172.	10048.	644.	702.	700.	702.	758.									
30	4	163.	544.	231.	226.	717.	1563.	1247.	3073.	13091.	30.	201.	700.	201.	288.									
30	5	217.	723.	255.	254.	890.	1338.	1652.	3351.	16415.	27.	225.	700.	225.	388.									
30	6	267.	643.	365.	364.	872.	1414.	1385.	3145.	17000.	2560.	2672.	970.	2402.	2296.									
30	7	635.	1270.	527.	492.	1326.	3336.	2551.	4203.	16890.	4140.	4164.	950.	3036.	0.									
30	8	580.	944.	638.	225.	729.	3114.	1630.	3392.	15410.	4613.	4608.	951.	3724.	0.									
30	9	360.	469.	593.	141.	381.	4023.	2027.	3734.	12440.	6366.	6297.	951.	4693.	0.									
30	10	77.	494.	449.	84.	253.	2349.	307.	2181.	6405.	7670.	7663.	952.	5925.	200.									
30	11	7.	334.	440.	120.	365.	1581.	307.	2285.	1979.	6303.	6241.	952.	4854.	200.									
30	12	56.	264.	354.	94.	331.	1503.	297.	2159.	41.	3951.	3885.	699.	3031.	50.									
		3062.	8212.	4750.	2637.	9008.	25975.	16815.	38550.	120518.	39795.	40273.	9924.	31846.	5551.									



		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLOW	DIVRTD	DIVRTD	PUMP	FLOW148	
28	1	33.	517.	15.	0.	144.	0.	22.	
28	2	35.	500.	52.	0.	21.	0.	54.	
28	3	32.	517.	15.	0.	0.	0.	15.	
28	4	39.	500.	56.	0.	0.	0.	56.	
28	5	22.	508.	14.	0.	0.	0.	14.	
28	6	65.	557.	15.	0.	0.	0.	15.	
28	7	177.	719.	15.	0.	0.	0.	15.	
28	8	241.	900.	59.	0.	97.	0.	59.	
28	9	97.	900.	96.	0.	628.	0.	96.	
28	10	40.	900.	39.	0.	919.	0.	38.	
28	11	24.	900.	23.	0.	751.	0.	23.	
28	12	19.	900.	18.	0.	551.	0.	19.	
29	1	26.	500.	425.	0.	144.	0.	426.	
29	2	26.	511.	15.	0.	21.	0.	15.	
29	3	18.	500.	29.	0.	0.	0.	29.	
29	4	13.	498.	15.	0.	0.	0.	15.	
29	5	11.	495.	14.	0.	0.	0.	14.	
29	6	60.	539.	15.	0.	0.	0.	15.	
29	7	188.	712.	15.	0.	0.	0.	15.	
29	8	328.	900.	139.	0.	97.	0.	139.	
29	9	88.	900.	87.	0.	517.	0.	87.	
29	10	38.	900.	37.	0.	946.	0.	37.	
29	11	23.	900.	22.	0.	715.	0.	22.	
29	12	22.	900.	21.	0.	404.	0.	21.	
30	1	33.	500.	432.	0.	144.	0.	433.	
30	2	29.	514.	15.	0.	21.	0.	15.	
30	3	29.	500.	43.	0.	0.	0.	43.	
30	4	21.	506.	15.	0.	0.	0.	15.	
30	5	30.	500.	36.	0.	0.	0.	36.	
30	6	44.	529.	15.	0.	0.	0.	15.	
30	7	5.	518.	15.	0.	0.	0.	15.	
30	8	119.	621.	15.	0.	219.	0.	15.	
30	9	88.	693.	15.	0.	489.	0.	15.	
30	10	35.	711.	15.	0.	491.	0.	16.	
30	11	22.	717.	15.	0.	343.	0.	16.	
30	12	16.	717.	15.	0.	386.	0.	15.	

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

1-M

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WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	OPCODES					ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE								
					PALISADES	JACKSON LAKE															
28	1	16	15.	700.	37	0.	0.	11	3250.	0.	59	0.	59	0.	0.	10	0.	0.			
28	2	16	15.	700.	37	0.	0.	30	0.	0.	59	0.	58	5.	0.	53	0.	500.			
28	3	16	10.	700.	37	0.	0.	30	0.	0.	59	0.	12	400.	0.	53	0.	0.			
28	4	16	5.	700.	49	0.	15000.	30	0.	0.	10	0.	12	400.	0.	53	0.	500.			
28	5	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	53	0.	0.			
28	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	100.	0.	53	0.	0.			
28	7	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	37	0.	0.	53	0.	0.			
28	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	37	0.	0.			
28	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	37	0.	0.			
28	10	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	12	750.	0.	37	0.	0.			
28	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	12	750.	0.	37	0.	0.			
28	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	12	750.	0.	49	130.	10	0.		
29	1	16	15.	700.	37	0.	0.	11	3250.	0.	53	0.	59	0.	0.	37	0.	50	0.		
29	2	16	15.	700.	37	0.	0.	30	0.	0.	53	0.	59	0.	0.	58	0.	10	0.		
29	3	16	10.	700.	37	0.	0.	30	0.	0.	53	0.	12	400.	0.	12	0.	50	0.		
29	4	15	0.	700.	37	0.	0.	12	1500.	0.	10	0.	12	50.	0.	12	0.	10	0.		
29	5	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	12	0.	10	0.		
29	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	100.	0.	12	0.	10	0.		
29	7	50	0.	950.	37	0.	0.	37	0.	0.	10	0.	37	0.	0.	12	0.	10	0.		
29	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	0.	37	0.		
29	9	50	0.	950.	37	0.	0.	37	0.	8470.	50	0.	12	750.	0.	37	0.	10	0.		
29	10	50	0.	950.	37	0.	0.	37	0.	12	3000.	0.	12	750.	0.	37	0.	10	0.		
29	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	12	750.	0.	12	100.	10	0.		
29	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	12	750.	0.	12	100.	49	130.	10	0.
30	1	16	5.	700.	37	0.	0.	11	3250.	0.	53	0.	59	0.	0.	37	0.	50	0.	500.	
30	2	16	15.	700.	37	0.	0.	11	2750.	0.	53	0.	58	5.	0.	58	0.	10	0.	0.	
30	3	16	5.	700.	37	0.	0.	11	2250.	0.	53	0.	12	400.	0.	12	0.	50	0.	500.	
30	4	15	0.	700.	37	0.	0.	12	1500.	0.	10	0.	12	50.	0.	12	0.	10	0.	0.	
30	5	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	12	0.	50	0.	500.	
30	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	100.	0.	53	0.	10	0.	0.	
30	7	50	0.	950.	37	0.	0.	37	0.	8470.	10	0.	37	0.	0.	53	0.	10	0.	0.	
30	8	50	0.	950.	37	0.	0.	37	0.	12	50	0.	12	750.	0.	53	0.	10	0.	0.	
30	9	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	37	0.	0.	37	0.	10	0.	0.	
30	10	50	0.	950.	37	0.	0.	37	0.	12	3000.	0.	12	750.	0.	37	0.	10	0.	0.	
30	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	37	0.	0.	12	100.	10	0.	0.	
30	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	37	0.	0.	12	100.	49	130.	10	0.

UPPER SN		RIVER DIGITAL MODEL		1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS		TOTAL H.FORK		
WYR	MO	FCSPSN	FRCSTH	SYSCON SNAKE	RENT H.FORK POOL	XCUT CANAL	GAIN MINDKA BURLEY	XCUT SMSHRT
31	1	0.	0.	20510.	1766.	0.	0.	0.
31	2	0.	0.	22843.	1885.	0.	0.	0.
31	3	0.	0.	26311.	1845.	0.	0.	0.
31	4	0.	2662.	29672.	2027.	0.	0.	0.
31	5	0.	2233.	33133.	1997.	0.	0.	0.
31	6	0.	1950.	36659.	2142.	0.	0.	0.
31	7	0.	1642.	37693.	2329.	337943.	0.	0.
31	8	0.	1338.	34189.	2216.	337687.	0.	0.
31	9	0.	510.	29747.	1885.	336139.	0.	0.
31	10	0.	140.	22070.	1201.	326303.	0.	0.
31	11	0.	0.	16121.	521.	309287.	0.	0.
31	12	0.	0.	13868.	332.	164156.	39.	17100.
		0.	10475.	322817.	20146.	*****	39.	26525.
32	1	0.	0.	13411.	350.	0.	0.	0.
32	2	0.	0.	15162.	460.	0.	0.	0.
32	3	0.	0.	18381.	632.	0.	0.	0.
32	4	0.	3743.	21338.	803.	0.	0.	0.
32	5	0.	3548.	24080.	968.	0.	0.	0.
32	6	0.	3388.	27627.	1098.	0.	0.	0.
32	7	0.	3228.	30165.	1240.	10977.	0.	0.
32	8	580.	2970.	34347.	1720.	10977.	0.	0.
32	9	340.	1567.	39348.	1857.	296153.	0.	0.
32	10	0.	541.	33659.	1748.	327233.	0.	0.
32	11	0.	0.	25278.	1514.	325184.	0.	0.
32	12	0.	0.	20846.	1275.	320510.	0.	0.
		920.	18985.	303641.	13666.	*****	0.	0.
							16380.	9520.
							16380.	19221.
33	1	0.	0.	19835.	1289.	0.	0.	0.
33	2	0.	0.	22904.	1426.	0.	0.	0.
33	3	0.	0.	26482.	1424.	0.	0.	0.
33	4	0.	3383.	30283.	1647.	0.	0.	0.
33	5	0.	3080.	33408.	1661.	0.	0.	0.
33	6	0.	2865.	36966.	1861.	0.	0.	0.
33	7	0.	2652.	37903.	2070.	29122.	0.	0.
33	8	80.	2405.	38305.	2122.	29122.	0.	0.
33	9	80.	1436.	39807.	2179.	339887.	0.	0.
33	10	0.	351.	31730.	1829.	338759.	0.	0.
33	11	0.	0.	22861.	1601.	332951.	0.	0.
33	12	0.	0.	17994.	1524.	302532.	16.	20930.
		160.	16172.	358480.	20632.	*****	16.	20930.
							12845.	23316.

UPPER SNAKE RIVER DIGITAL MODEL												1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS												1-M					
JACKSON LAKE				PALISADES				HEISE		HENRYS LAKE		ISLAND PARK		H. FORK		GRASSY LAKE													
WYR		MO		INFLOW		OUTFLOW		INFLOW		OUTFLOW		EOM		INFLOW		EOM		INFLOW		EOM		INFLOW		EOM		INFLOW		EOM	
31	1	463.	5229.	428.	2568.	13455.	1845.	2170.	747.	0.	270.	0.	889.	270.	668.	131.	0.												
31	2	241.	5229.	241.	1798.	12964.	2289.	2514.	756.	0.	216.	0.	997.	108.	483.	133.	0.												
31	3	200.	5229.	200.	1568.	13610.	922.	1118.	766.	0.	194.	0.	945.	246.	636.	135.	0.												
31	4	202.	5400.	31.	1194.	13881.	922.	1093.	780.	0.	197.	0.	1111.	31.	429.	137.	0.												
31	5	166.	5539.	28.	1135.	14000.	1016.	1175.	795.	0.	175.	0.	1064.	222.	589.	139.	0.												
31	6	231.	5739.	31.	1271.	14000.	1271.	1455.	815.	0.	185.	0.	1187.	61.	475.	140.	0.												
31	7	409.	6085.	30.	2075.	14000.	2043.	2174.	838.	0.	250.	0.	1350.	76.	547.	141.	0.												
31	8	1544.	6032.	1537.	4854.	14000.	4806.	5086.	843.	43.	354.	0.	1221.	461.	901.	152.	6.												
31	9	1576.	5728.	1785.	5547.	14000.	5480.	5806.	843.	14.	245.	0.	890.	550.	902.	152.	7.												
31	10	569.	4350.	1845.	3430.	13295.	4059.	4225.	596.	245.	497.	0.	506.	849.	1185.	99.	56.												
31	11	373.	2784.	1845.	3237.	12477.	3987.	4185.	231.	365.	601.	0.	251.	836.	1170.	38.	64.												
31	12	218.	1460.	1488.	2796.	11551.	3680.	3847.	162.	74.	284.	0.	161.	369.	701.	8.	34.												
		6192.	58803.	9487.	31472.	161234.	32319.	34847.	8171.	741.	3468.	0.	10572.	4079.	8686.	1403.	166.												
32	1	243.	1432.	243.	1555.	10641.	2441.	2636.	180.	0.	212.	0.	159.	212.	564.	10.	0.												
32	2	194.	1432.	194.	1395.	10616.	1420.	1594.	198.	0.	178.	0.	248.	89.	422.	13.	0.												
32	3	249.	1432.	249.	1327.	11021.	922.	1088.	217.	0.	180.	0.	397.	31.	376.	17.	0.												
32	4	265.	1666.	31.	1044.	10966.	1099.	1259.	236.	0.	180.	0.	547.	31.	361.	20.	0.												
32	5	267.	1904.	29.	945.	10881.	1030.	1178.	256.	0.	171.	0.	689.	29.	365.	23.	0.												
32	6	296.	2169.	31.	1104.	11109.	876.	1047.	277.	0.	168.	0.	795.	61.	468.	25.	0.												
32	7	382.	2493.	30.	2259.	12744.	595.	735.	300.	0.	185.	0.	912.	60.	554.	28.	0.												
32	8	2336.	4744.	30.	7509.	13594.	6612.	7152.	323.	0.	646.	0.	1350.	189.	1240.	46.	0.												
32	9	3680.	8288.	39.	8568.	13745.	8350.	9038.	438.	0.	500.	0.	1350.	468.	1164.	70.	0.												
32	10	1460.	7792.	1845.	6663.	14000.	6331.	6705.	499.	0.	322.	0.	1169.	461.	905.	81.	0.												
32	11	717.	6558.	1845.	4339.	12441.	5829.	6172.	442.	61.	320.	0.	987.	466.	873.	85.	0.												
32	12	308.	5315.	1488.	3419.	12340.	3477.	3712.	448.	0.	244.	0.	767.	446.	831.	60.	30.												
		10397.	45225.	6052.	40126.	144098.	38983.	42317.	3816.	61.	3306.	0.	9371.	2542.	8122.	479.	30.												
33	1	233.	5315.	198.	1908.	11944.	2278.	2521.	468.	0.	241.	0.	759.	241.	655.	62.	0.												
33	2	200.	5315.	200.	1721.	12624.	1041.	1256.	496.	0.	212.	0.	865.	106.	510.	65.	0.												
33	3	221.	5315.	221.	1556.	13257.	922.	1116.	524.	0.	212.	0.	831.	246.	625.	69.	0.												
33	4	313.	5597.	31.	1355.	13690.	922.	1126.	552.	0.	223.	0.	1023.	31.	432.	72.	0.												
33	5	275.	5844.	28.	1091.	14000.	781.	948.	580.	0.	205.	0.	1006.	222.	581.	75.	0.												
33	6	203.	6017.	31.	1225.	14000.	1225.	1399.	609.	0.	229.	0.	1173.	61.	468.	78.	0.												
33	7	286.	6239.	30.	2035.	14000.	2003.	2126.	640.	0.	289.	0.	1350.	101.	569.	80.	0.												
33	8	1244.	7392.	30.	4456.	13944.	4464.	4789.	677.	0.	520.	0.	1350.	498.	1306.	95.	0.												
33	9	4003.	8350.	2945.	11716.	13940.	11653.	12366.	740.	0.	439.	0.	1311.	446.	1007.	128.	0.												
33	10	1230.	7624.	1845.	4936.	12552.	6249.	6523.	749.	0.	267.	0.	945.	593.	987.	134.	0.												
33	11	631.	6304.	1845.	3790.	10717.	5561.	5836.	685.	61.	331.	0.	777.	467.	874.	139.	0.												
33	12	386.	5139.	1488.	3120.	9804.	3996.	4208.	691.	0.	255.	0.	703.	313.	686.	130.	13.												
		9225.	74451.	8890.	38908.	154472.	41096.	44215.	7412.	61.	3423.	0.	12094.	3327.	8702.	1126.	13.												





UPPER SNAKE RIVER DIGITAL MODEL      1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS

RIRIE		PUMP FLOW148			
INFLOW	EOM	OUTFLOW	DIVRTD	DIVRTD	PUMP FLOW148
31 1	28. 500.	245.	0.	144.	0. 245.
31 2	27. 512.	15.	0.	21.	0. 15.
31 3	21. 500.	33.	0.	0.	0. 33.
31 4	19. 504.	15.	0.	0.	0. 15.
31 5	18. 500.	22.	0.	0.	0. 22.
31 6	46. 531.	15.	0.	0.	0. 15.
31 7	93. 608.	15.	0.	0.	0. 15.
31 8	112. 704.	15.	0.	167.	0. 16.
31 9	151. 839.	15.	0.	225.	0. 15.
31 10	35. 857.	15.	0.	204.	0. 15.
31 11	17. 858.	15.	0.	188.	0. 15.
31 12	14. 856.	15.	0.	64.	0. 15.
32 1	19. 500.	375.	0.	144.	0. 375.
32 2	16. 501.	15.	0.	21.	0. 15.
32 3	18. 500.	19.	0.	0.	0. 19.
32 4	16. 501.	15.	0.	0.	0. 15.
32 5	11. 500.	12.	0.	0.	0. 12.
32 6	45. 530.	15.	0.	0.	0. 15.
32 7	188. 702.	15.	0.	0.	0. 15.
32 8	278. 900.	79.	0.	99.	0. 79.
32 9	116. 900.	115.	0.	298.	0. 115.
32 10	42. 900.	41.	0.	523.	0. 41.
32 11	22. 900.	21.	0.	291.	0. 21.
32 12	18. 900.	17.	0.	191.	0. 18.
33 1	23. 500.	422.	0.	144.	0. 423.
33 2	28. 513.	15.	0.	21.	0. 15.
33 3	19. 500.	32.	0.	0.	0. 32.
33 4	23. 508.	15.	0.	0.	0. 15.
33 5	18. 500.	26.	0.	0.	0. 26.
33 6	43. 528.	15.	0.	0.	0. 15.
33 7	152. 664.	15.	0.	0.	0. 15.
33 8	245. 893.	15.	0.	50.	0. 15.
33 9	67. 900.	59.	0.	423.	0. 59.
33 10	36. 900.	35.	0.	483.	0. 35.
33 11	22. 900.	21.	0.	305.	0. 21.
33 12	18. 900.	17.	0.	197.	0. 18.

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE		
						JACKSON LAKE	JACKSON LAKE						
31	1	16	5.	700. 37	0.	0.	11 3250.	0.	53	0.	59	0.	50.
31	2	16	15.	700. 37	0.	0.	30	0.	53	0.	58	5.	0.
31	3	16	5.	700. 37	0.	0.	11 2250.	0.	53	0.	12 400.	0.	500.
31	4	15	0.	700. 37	0.	0.	12 1500.	0.	10	0.	12 50.	0.	0.
31	5	15	0.	700. 37	0.	0.	11 2750.	0.	10	0.	12 400.	0.	500.
31	6	15	0.	700. 37	0.	0.	10	0.	10	0.	12 100.	0.	0.
31	7	50	0.	950. 37	0.	0.	37	0.	10	0.	12 100.	0.	0.
31	8	50	0.	950. 37	0.	0.	37	0.	12 2500.	0.	12 750.	0.	0.
31	9	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	0.
31	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	0.
31	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	0.
31	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	37	0.	0.
32	1	50	0.	700. 37	0.	0.	11 3250.	0.	59	0.	59	0.	500.
32	2	16	5.	700. 10	0.	0.	11 2250.	0.	59	0.	58	5.	0.
32	3	50	0.	700. 37	0.	0.	11 2250.	0.	59	0.	12 50.	0.	500.
32	4	15	0.	700. 37	0.	0.	10	0.	10	0.	12 50.	0.	0.
32	5	15	0.	700. 37	0.	0.	11 2750.	0.	10	0.	12 50.	0.	500.
32	6	15	0.	700. 37	0.	0.	11 2750.	0.	10	0.	12 100.	0.	0.
32	7	50	0.	950. 37	0.	0.	37	0.	10	0.	12 100.	0.	0.
32	8	50	0.	950. 37	0.	0.	45	0.	45	0.	37	0.	0.
32	9	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	0.
32	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	0.
32	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	0.
32	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	12 750.	0.	0.
33	1	16	15.	700. 37	0.	0.	11 3250.	0.	53	0.	59	0.	500.
33	2	16	5.	700. 37	0.	0.	11 2250.	0.	53	0.	58	5.	0.
33	3	16	5.	700. 37	0.	0.	11 2250.	0.	53	0.	12 400.	0.	500.
33	4	15	0.	700. 37	0.	0.	12 1500.	0.	10	0.	12 50.	0.	0.
33	5	15	0.	700. 37	0.	0.	10	0.	10	0.	12 400.	0.	500.
33	6	15	0.	700. 37	0.	0.	10	0.	10	0.	12 100.	0.	0.
33	7	50	0.	950. 37	0.	0.	37	0.	10	0.	12 100.	0.	0.
33	8	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	0.
33	9	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	0.
33	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	0.
33	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	0.
33	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	37	0.	0.

UPPER SNYDER RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS										1-M	
JACKSON LAKE					PALISADES					HEISE		HENRYS LAKE		ISLAND PARK		H. FORK		GRASSY LAKE			
WYR	MO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	FLOW	EOM	OUTFLO	INFLOW	SEEPAG	EOM	OUTFLO	ASHTON	EOM	OUTFLO				
34	1	240.	5139.	205.	1656.	9594.	1845.	2061.	701.	0.	255.	0.	695.	255.	630.	131.	0.				
34	2	194.	5139.	194.	1502.	10055.	1041.	1229.	714.	0.	229.	0.	810.	115.	485.	133.	0.				
34	3	199.	5139.	199.	1366.	10499.	922.	1093.	727.	0.	224.	0.	788.	246.	625.	135.	0.				
34	4	284.	5393.	31.	1144.	10720.	922.	1097.	741.	0.	226.	0.	788.	31.	396.	137.	0.				
34	5	208.	5573.	38.	982.	10665.	1038.	1183.	756.	0.	205.	0.	1160.	28.	351.	139.	0.				
34	6	286.	5828.	31.	1309.	10479.	1495.	1690.	775.	0.	245.	0.	1344.	61.	460.	141.	0.				
34	7	1146.	6910.	30.	2312.	10397.	2367.	2548.	792.	0.	296.	0.	1154.	475.	908.	142.	0.				
34	8	2142.	6839.	2152.	6100.	11026.	5431.	5784.	815.	0.	235.	0.	1210.	158.	508.	152.	5.				
34	9	951.	5909.	1785.	4143.	10800.	4313.	4528.	815.	0.	227.	0.	1109.	299.	651.	152.	8.				
34	10	581.	4542.	1845.	3344.	10791.	3288.	3448.	465.	343.	556.	0.	674.	961.	1289.	57.	100.				
34	11	287.	2889.	1845.	3043.	11602.	2170.	2344.	71.	390.	607.	0.	162.	1105.	1441.	4.	57.				
34	12	189.	1537.	1488.	2528.	10889.	3202.	3338.	36.	35.	233.	0.	159.	231.	534.	4.	4.				
		6707.	60837.	9831.	29428.	127517.	28034.	30343.	7406.	767.	3537.	0.	10248.	3964.	8287.	1325.	175.				
35	1	305.	1782.	31.	1159.	9373.	2653.	2833.	37.	0.	201.	0.	73.	285.	616.	6.	0.				
35	2	276.	2028.	30.	1056.	8558.	1871.	2034.	0.	58.	245.	0.	0.	319.	653.	8.	0.				
35	3	266.	2263.	31.	1002.	8638.	922.	1076.	21.	0.	190.	0.	159.	31.	356.	11.	0.				
35	4	303.	2536.	31.	950.	8633.	955.	1108.	42.	0.	188.	0.	317.	31.	347.	13.	0.				
35	5	229.	2737.	28.	851.	8525.	958.	1089.	63.	0.	168.	0.	457.	28.	313.	15.	0.				
35	6	261.	2967.	31.	988.	8546.	967.	1119.	84.	0.	166.	0.	561.	61.	413.	17.	0.				
35	7	479.	3386.	30.	2470.	9724.	1269.	1468.	105.	0.	224.	0.	719.	60.	508.	20.	0.				
35	8	1732.	5032.	30.	5191.	12680.	2194.	2632.	127.	0.	162.	0.	865.	0.	1021.	35.	0.				
35	9	3630.	8288.	277.	8795.	13745.	7664.	8006.	18.	179.	581.	0.	1350.	68.	519.	54.	0.				
35	10	1456.	7788.	1845.	5764.	13706.	5727.	6071.	0.	44.	296.	0.	855.	757.	1129.	46.	14.				
35	11	607.	6444.	1845.	3886.	13400.	4121.	4382.	1.	0.	243.	0.	407.	669.	1019.	24.	27.				
35	12	247.	5140.	1488.	2942.	12488.	3810.	4091.	2.	1.	223.	0.	256.	367.	757.	15.	13.				
		9791.	50390.	5694.	35052.	128017.	33111.	35909.	499.	282.	2887.	0.	6020.	2675.	7650.	266.	54.				
36	1	246.	5140.	211.	1597.	11657.	2402.	2618.	9.	0.	231.	0.	253.	231.	504.	17.	0.				
36	2	234.	5140.	234.	1478.	12094.	1041.	1226.	38.	0.	214.	0.	360.	107.	423.	20.	0.				
36	3	196.	5140.	196.	1301.	12473.	922.	1085.	67.	0.	220.	0.	550.	31.	337.	24.	0.				
36	4	400.	5509.	31.	1040.	12590.	922.	1098.	95.	0.	214.	0.	733.	31.	349.	27.	0.				
36	5	380.	5860.	29.	949.	12676.	863.	1026.	123.	0.	189.	0.	893.	29.	363.	30.	0.				
36	6	277.	6107.	31.	1030.	11000.	2706.	2865.	151.	0.	197.	0.	1029.	61.	403.	33.	0.				
36	7	690.	6734.	29.	3326.	13701.	595.	914.	179.	0.	352.	0.	1311.	60.	640.	36.	0.				
36	8	3883.	8126.	2429.	14430.	13342.	14741.	15525.	211.	0.	515.	0.	1342.	461.	1278.	62.	0.				
36	9	2935.	8284.	2676.	12275.	13745.	11806.	12255.	258.	0.	308.	0.	1174.	446.	913.	82.	0.				
36	10	1023.	7351.	1845.	5691.	13301.	6059.	6292.	0.	272.	513.	0.	859.	790.	1181.	88.	0.				
36	11	618.	6019.	1845.	4295.	12269.	5260.	5520.	12.	0.	246.	0.	524.	552.	925.	94.	0.				
36	12	293.	4762.	1488.	3472.	11282.	4418.	4663.	19.	0.	236.	0.	485.	264.	627.	70.	30.				
		11175.	74172.	11042.	50883.	150130.	51736.	55088.	1164.	272.	3435.	0.	9512.	3063.	7943.	585.	30.				

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	FCSPSN	FRCSH	SNAKE	SYSCON	RENT	XCUT	GAIN	USED	BY	TOTAL	H. FORK
					H. FORK	POOL	CANAL	MINDKA	BURLEY	XCUT	SMSHRT	
34	1	0.	0.	17637.	1526.	0.	0.	0.	0.	0.	0.	0.
34	2	0.	0.	20316.	1656.	0.	0.	0.	0.	0.	0.	0.
34	3	0.	0.	23707.	1649.	0.	0.	0.	0.	0.	0.	0.
34	4	0.	2672.	27240.	1860.	0.	0.	0.	0.	0.	0.	0.
34	5	0.	2242.	30074.	2054.	0.	0.	0.	0.	0.	0.	0.
34	6	0.	1971.	32691.	2259.	26833.	0.	0.	0.	0.	0.	0.
34	7	0.	1656.	32407.	2088.	324542.	0.	0.	0.	0.	0.	0.
34	8	0.	1251.	31049.	2178.	323935.	0.	0.	0.	0.	0.	0.
34	9	0.	310.	28242.	2076.	320944.	0.	910.	490.	0.	250.	-5130.
34	10	0.	133.	24107.	1196.	311916.	0.	0.	0.	0.	4285.	-57783.
34	11	0.	0.	20940.	237.	280246.	0.	0.	770.	0.	8045.	-53462.
34	12	0.	0.	17494.	200.	217494.	24.	0.	3640.	0.	1089.	-17843.
		0.	10235.	305905.	18979.	*****	24.	910.	4900.	19254.	5584.	0.
		0.	15427.	117.	0.	0.	93.	0.	0.	9333.	-896.	0.
35	1	0.	0.	16725.	8.	0.	0.	0.	0.	0.	0.	0.
35	2	0.	0.	19746.	192.	0.	0.	0.	0.	0.	0.	0.
35	3	0.	3459.	22606.	372.	0.	0.	0.	0.	0.	0.	0.
35	4	0.	3209.	25045.	535.	0.	0.	0.	0.	0.	0.	0.
35	5	0.	3033.	27755.	663.	17967.	0.	0.	0.	0.	0.	0.
35	6	0.	2854.	29738.	844.	17967.	0.	0.	0.	0.	0.	0.
35	7	0.	2546.	31249.	1027.	17475.	0.	0.	0.	0.	0.	0.
35	8	220.	1446.	33410.	1422.	258976.	0.	0.	0.	0.	0.	0.
35	9	340.	452.	28570.	901.	258478.	0.	0.	0.	12083.	-13259.	0.
35	10	0.	0.	23074.	432.	252463.	0.	3380.	1820.	3763.	-15819.	0.
35	11	0.	0.	18528.	273.	219377.	0.	23530.	12670.	3677.	0.	0.
35	12	0.	560.	16999.	291873.	6785.	*****	93.	26910.	14490.	28857.	-29973.
		0.	0.	17465.	280.	0.	0.	0.	0.	0.	0.	0.
36	1	0.	0.	19988.	419.	0.	0.	0.	0.	0.	0.	0.
36	2	0.	0.	23272.	641.	0.	0.	0.	0.	0.	0.	0.
36	3	0.	4168.	26836.	855.	0.	0.	0.	0.	0.	0.	0.
36	4	0.	4049.	30017.	1046.	0.	0.	0.	0.	0.	0.	0.
36	5	0.	3923.	33418.	1213.	0.	0.	0.	0.	0.	0.	0.
36	6	0.	3823.	36971.	1526.	34368.	0.	0.	0.	0.	0.	0.
36	7	300.	3438.	39368.	1616.	34076.	0.	0.	0.	0.	0.	0.
36	8	940.	1436.	39929.	1514.	350295.	0.	0.	0.	47.	0.	0.
36	9	340.	393.	32597.	947.	349642.	0.	1235.	665.	12092.	0.	0.
36	10	0.	0.	24904.	630.	333446.	0.	5785.	3115.	6847.	0.	0.
36	11	0.	0.	20407.	574.	304280.	0.	25415.	13685.	1364.	0.	0.
36	12	0.	1580.	21230.	345170.	11261.	*****	0.	32435.	17465.	20350.	0.





		RIRIE				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD
		PUMP FLOW148				
34	1	19.	500.	418.	0.	62.
34	2	21.	506.	15.	0.	10.
34	3	19.	500.	25.	0.	0.
34	4	20.	505.	15.	0.	0.
34	5	15.	500.	20.	0.	0.
34	6	24.	509.	15.	0.	0.
34	7	0.	493.	15.	0.	45.
34	8	114.	591.	15.	0.	309.
34	9	118.	693.	15.	0.	340.
34	10	35.	712.	15.	0.	313.
34	11	17.	712.	15.	0.	276.
34	12	15.	711.	15.	0.	320.
35	1	18.	500.	229.	0.	144.
35	2	7.	492.	15.	0.	21.
35	3	15.	492.	15.	0.	0.
35	4	11.	487.	15.	0.	0.
35	5	12.	485.	14.	0.	0.
35	6	38.	508.	15.	0.	0.
35	7	136.	629.	15.	0.	0.
35	8	223.	835.	15.	0.	57.
35	9	129.	900.	63.	0.	289.
35	10	38.	900.	37.	0.	336.
35	11	16.	899.	15.	0.	248.
35	12	15.	899.	15.	0.	180.
36	1	18.	500.	416.	0.	144.
36	2	17.	502.	15.	0.	21.
36	3	13.	500.	15.	0.	0.
36	4	15.	500.	15.	0.	0.
36	5	13.	498.	14.	0.	0.
36	6	43.	526.	15.	0.	0.
36	7	228.	738.	15.	0.	0.
36	8	357.	900.	195.	0.	127.
36	9	94.	900.	93.	0.	275.
36	10	34.	900.	33.	0.	313.
36	11	24.	900.	23.	0.	259.
36	12	18.	900.	17.	0.	268.

UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

1-M

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES				GRASSY LAKE	HENRYS LAKE	ISLAND PARK	JACKSON LAKE	RIRIE									
						LAKE	FALLS	PALISADES	JACKSON LAKE														
34	1	16	5.	700.	37	0.	0.	11	3250.	0.	53	0.	0.	59	0.	0.	37	0.	0.	50	0.	500.	
34	2	16	5.	700.	37	0.	0.	11	2250.	0.	53	0.	0.	58	0.	5.	0.	58	0.	0.	10	0.	0.
34	3	16	5.	700.	37	0.	0.	11	2250.	0.	53	0.	0.	12	400.	0.	12	0.	0.	0.	10	0.	500.
34	4	15	0.	700.	37	0.	0.	12	1500.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
34	5	15	0.	700.	37	0.	0.	11	2750.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	500.
34	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	0.	12	100.	0.	12	0.	0.	0.	10	0.	0.
34	7	50	0.	950.	37	0.	0.	10	0.	0.	10	0.	0.	37	0.	0.	12	0.	0.	0.	10	0.	0.
34	8	50	0.	950.	37	0.	0.	37	0.	0.	12	3500.	0.	37	0.	0.	10	0.	0.	0.	10	0.	0.
34	9	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
34	10	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	37	0.	100.	0.	10	0.	0.
34	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	12	0.	0.	0.	10	0.	0.
34	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
35	1	16	5.	700.	37	0.	0.	11	3250.	0.	10	0.	0.	59	0.	0.	37	0.	0.	0.	50	0.	500.
35	2	16	5.	700.	37	0.	0.	11	2250.	0.	10	0.	0.	58	0.	5.	0.	58	0.	0.	10	0.	0.
35	3	50	0.	700.	37	0.	0.	11	2250.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
35	4	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
35	5	15	0.	700.	37	0.	0.	11	2750.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
35	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	0.	12	100.	0.	12	0.	0.	0.	10	0.	0.
35	7	50	0.	950.	37	0.	0.	10	0.	0.	10	0.	0.	12	100.	0.	12	0.	0.	0.	10	0.	0.
35	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
35	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	0.	12	300.	0.	12	300.	0.	0.	10	0.	0.
35	10	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	12	750.	0.	12	500.	0.	0.	10	0.	0.
35	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
35	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
36	1	16	5.	700.	37	0.	0.	11	3250.	0.	53	0.	0.	59	0.	0.	37	0.	0.	0.	50	0.	500.
36	2	16	5.	700.	37	0.	0.	11	2250.	0.	53	0.	0.	58	0.	5.	0.	58	0.	0.	10	0.	0.
36	3	50	0.	700.	37	0.	0.	11	2250.	0.	53	0.	0.	12	50.	0.	12	0.	0.	0.	50	0.	500.
36	4	15	0.	700.	37	0.	0.	12	1500.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
36	5	15	0.	700.	37	0.	0.	11	2750.	0.	10	0.	0.	12	50.	0.	12	0.	0.	0.	10	0.	0.
36	6	15	0.	700.	37	0.	0.	30	0.	0.	10	0.	0.	12	100.	0.	12	0.	0.	0.	10	0.	0.
36	7	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	0.	12	100.	0.	12	0.	0.	0.	10	0.	0.
36	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	0.	12	750.	0.	12	0.	0.	0.	10	0.	0.
36	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	0.	12	750.	0.	37	0.	0.	0.	10	0.	0.
36	10	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	12	500.	0.	0.	10	0.	0.
36	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.
36	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	37	0.	0.	37	0.	0.	0.	10	0.	0.

1928-79 W/O SALMON FALLS. INCLUDES 1939 RIGHTS

[illegible]

UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

1-M

UPPER SNAKE RIVER DIGITAL MODEL																	
JACKSON LAKE				PALISADES				HEISE		HENRYS LAKE		ISLAND PARK		H. FORK		GRASSY LAKE	
WYR	MO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	FLOW	EOM	OUTFLO	INFLOW	SEEPAG	EOM	OUTFLO	ASHTON	EOM	OUTFLO
37	1	208.	4728.	208.	1893.	10794.	2356.	2571.	45.	0.	237.	0.	479.	237.	602.	72.	0.
37	2	130.	4728.	130.	1541.	11294.	1041.	1233.	67.	0.	220.	0.	589.	110.	454.	75.	0.
37	3	214.	4728.	214.	1501.	11873.	922.	1109.	89.	0.	220.	0.	778.	31.	383.	78.	0.
37	4	244.	4941.	31.	1165.	11574.	1464.	1636.	111.	0.	216.	0.	964.	31.	365.	81.	0.
37	5	273.	5186.	28.	1021.	11565.	1030.	1188.	133.	0.	195.	0.	1131.	28.	361.	83.	0.
37	6	212.	5368.	31.	1124.	11901.	787.	950.	155.	0.	213.	0.	1282.	61.	435.	85.	0.
37	7	318.	5623.	30.	1822.	13098.	595.	708.	177.	0.	242.	0.	1350.	163.	569.	87.	0.
37	8	2362.	7348.	577.	7692.	14000.	6742.	7269.	201.	0.	523.	0.	1350.	501.	1275.	107.	0.
37	9	2422.	8470.	1199.	6563.	14000.	6495.	6950.	257.	0.	331.	0.	1204.	446.	939.	125.	0.
37	10	1109.	7623.	1845.	4666.	12843.	5748.	6007.	0.	266.	532.	0.	1162.	536.	936.	132.	0.
37	11	546.	6218.	1845.	3435.	11293.	4919.	5154.	0.	10.	265.	0.	935.	461.	844.	136.	0.
37	12	247.	4915.	1488.	3041.	10674.	3621.	3813.	2.	0.	228.	0.	699.	446.	791.	130.	10.
		8285.	69876.	7623.	35462.	144909.	35722.	38590.	1234.	276.	3422.	0.	11925.	3052.	7955.	1189.	10.
38	1	276.	4880.	276.	1739.	10091.	2299.	2516.	5.	0.	234.	0.	692.	234.	590.	133.	0.
38	2	226.	4880.	226.	1533.	10534.	1090.	1281.	25.	0.	222.	0.	803.	111.	454.	136.	0.
38	3	321.	4880.	321.	1595.	11207.	922.	1121.	58.	0.	224.	0.	781.	246.	604.	140.	0.
38	4	292.	5142.	31.	1154.	11438.	922.	1099.	90.	0.	217.	0.	967.	31.	371.	143.	0.
38	5	265.	5379.	28.	1001.	11606.	833.	988.	122.	0.	193.	0.	1132.	28.	332.	146.	0.
38	6	361.	5709.	31.	1187.	12065.	728.	918.	155.	0.	217.	0.	1288.	61.	410.	149.	0.
38	7	541.	6187.	29.	3526.	13982.	1578.	1793.	188.	0.	322.	0.	1350.	248.	836.	152.	0.
38	8	2290.	8189.	226.	8013.	13489.	8458.	9018.	222.	0.	765.	0.	1350.	743.	1779.	152.	20.
38	9	4481.	8261.	4308.	13345.	13678.	13090.	13847.	359.	0.	564.	0.	1350.	532.	1137.	152.	25.
38	10	1681.	7986.	1845.	6813.	14000.	6414.	6814.	438.	0.	407.	0.	1253.	461.	917.	152.	12.
38	11	745.	6779.	1845.	4226.	12645.	5511.	5842.	397.	61.	359.	0.	1113.	461.	868.	152.	7.
38	12	474.	5701.	1488.	3409.	12335.	3677.	3927.	412.	0.	269.	0.	917.	446.	827.	130.	27.
		11953.	73975.	10653.	47540.	147069.	45524.	49166.	2472.	61.	3993.	0.	12995.	3603.	9126.	1734.	91.
39	1	346.	5701.	311.	2109.	12572.	1845.	2113.	444.	0.	288.	0.	907.	288.	690.	132.	0.
39	2	279.	5701.	279.	1834.	12258.	2148.	2377.	476.	0.	250.	0.	907.	250.	628.	135.	0.
39	3	305.	5701.	305.	1715.	11943.	2029.	2243.	508.	0.	217.	0.	878.	246.	640.	139.	0.
39	4	284.	5954.	31.	1356.	11629.	1670.	1871.	540.	0.	219.	0.	1067.	31.	419.	142.	0.
39	5	283.	6210.	28.	1102.	12173.	558.	728.	571.	0.	195.	0.	1039.	222.	565.	145.	0.
39	6	261.	6440.	31.	1502.	13060.	615.	830.	603.	0.	213.	0.	1191.	61.	480.	147.	0.
39	7	695.	7071.	30.	4019.	14000.	3047.	3296.	634.	0.	435.	0.	1350.	265.	1017.	149.	0.
39	8	2845.	8470.	1383.	7960.	14000.	7911.	8438.	674.	0.	526.	0.	1350.	504.	1284.	152.	21.
39	9	2016.	8470.	1914.	7018.	14000.	6950.	7369.	717.	0.	293.	0.	1166.	446.	957.	152.	17.
39	10	1178.	7692.	1845.	5162.	12984.	6103.	6391.	724.	0.	270.	0.	826.	573.	998.	152.	9.
39	11	616.	6357.	1845.	3865.	11208.	5575.	5858.	655.	61.	364.	0.	649.	512.	928.	146.	12.
39	12	322.	5128.	1488.	3227.	11169.	3227.	3443.	658.	0.	262.	0.	689.	207.	621.	130.	21.
		9430.	78895.	9487.	40867.	150996.	41679.	44958.	7204.	61.	3532.	0.	12020.	3605.	9227.	1718.	80.





		RIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW148			
37	1	20.	500.	419.	0.	144.	0.	420.			
37	2	24.	509.	15.	0.	21.	0.	15.			
37	3	21.	500.	30.	0.	0.	0.	30.			
37	4	15.	500.	15.	0.	0.	0.	15.			
37	5	11.	497.	14.	0.	0.	0.	14.			
37	6	45.	526.	15.	0.	0.	0.	15.			
37	7	175.	686.	15.	0.	0.	0.	15.			
37	8	264.	900.	49.	0.	99.	0.	49.			
37	9	85.	900.	84.	0.	207.	0.	84.			
37	10	37.	900.	36.	0.	313.	0.	36.			
37	11	18.	900.	17.	0.	267.	0.	17.			
37	12	17.	900.	16.	0.	186.	0.	16.			
38	1	20.	500.	419.	0.	144.	0.	420.			
38	2	19.	504.	15.	0.	21.	0.	15.			
38	3	29.	500.	33.	0.	0.	0.	33.			
38	4	24.	509.	15.	0.	0.	0.	15.			
38	5	31.	500.	40.	0.	0.	0.	40.			
38	6	53.	538.	15.	0.	0.	0.	15.			
38	7	189.	711.	15.	0.	0.	0.	15.			
38	8	249.	900.	59.	0.	83.	0.	60.			
38	9	57.	900.	56.	0.	296.	0.	56.			
38	10	44.	900.	43.	0.	261.	0.	43.			
38	11	14.	897.	15.	0.	305.	0.	15.			
38	12	17.	899.	15.	0.	224.	0.	15.			
39	1	23.	500.	421.	0.	144.	0.	422.			
39	2	30.	515.	15.	0.	21.	0.	15.			
39	3	30.	500.	45.	0.	0.	0.	45.			
39	4	31.	516.	15.	0.	0.	0.	15.			
39	5	18.	500.	34.	0.	0.	0.	34.			
39	6	63.	548.	15.	0.	0.	0.	15.			
39	7	128.	660.	15.	0.	0.	0.	15.			
39	8	119.	763.	15.	0.	167.	0.	16.			
39	9	73.	820.	15.	0.	239.	0.	14.			
39	10	24.	827.	15.	0.	316.	0.	15.			
39	11	19.	830.	15.	0.	291.	0.	16.			
39	12	19.	833.	15.	0.	183.	0.	14.			

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	JACKSON LAKE				
37	1	16	15.	700.	37	0.	11 3250.	0.	11 3250.	0.	500.
37	2	16	5.	700.	37	0.	11 2250.	0.	11 2250.	0.	500.
37	3	16	5.	700.	37	0.	11 2250.	0.	11 2250.	0.	500.
37	4	15	0.	700.	37	0.	12 1500.	0.	12 1500.	0.	500.
37	5	15	0.	700.	37	0.	11 2750.	0.	11 2750.	0.	500.
37	6	15	0.	700.	37	0.	10	0.	10	0.	500.
37	7	50	0.	950.	37	0.	37	0.	37	0.	500.
37	8	50	0.	950.	37	0.	37	0.	37	0.	500.
37	9	50	0.	950.	37	0.	37	0.	37	0.	500.
37	10	50	0.	950.	37	0.	37	0.	37	0.	500.
37	11	50	0.	950.	37	0.	37	0.	37	0.	500.
37	12	50	0.	700.	37	0.	37	0.	37	0.	500.
38	1	16	5.	700.	37	0.	11 3250.	0.	11 3250.	0.	500.
38	2	16	5.	700.	37	0.	11 2250.	0.	11 2250.	0.	500.
38	3	16	5.	700.	37	0.	11 2250.	0.	11 2250.	0.	500.
38	4	15	0.	700.	37	0.	12 1500.	0.	12 1500.	0.	500.
38	5	15	0.	700.	37	0.	11 2750.	0.	11 2750.	0.	500.
38	6	15	0.	700.	37	0.	10	0.	10	0.	500.
38	7	50	0.	950.	37	0.	45	0.	45	0.	500.
38	8	50	0.	950.	37	0.	45	0.	45	0.	500.
38	9	50	0.	950.	37	0.	45	0.	45	0.	500.
38	10	50	0.	950.	37	0.	37	0.	37	0.	500.
38	11	50	0.	950.	37	0.	37	0.	37	0.	500.
38	12	50	0.	700.	37	0.	37	0.	37	0.	500.
39	1	16	20.	700.	37	0.	11 3250.	0.	11 3250.	0.	500.
39	2	16	15.	700.	37	0.	30	0.	30	0.	500.
39	3	16	10.	700.	37	0.	30	0.	30	0.	500.
39	4	15	0.	700.	37	0.	30	0.	30	0.	500.
39	5	15	0.	700.	37	0.	10	0.	10	0.	500.
39	6	15	0.	700.	37	0.	10	0.	10	0.	500.
39	7	50	0.	950.	37	0.	37	0.	37	0.	500.
39	8	50	0.	950.	37	0.	37	0.	37	0.	500.
39	9	50	0.	950.	37	0.	37	0.	37	0.	500.
39	10	50	0.	950.	37	0.	37	0.	37	0.	500.
39	11	50	0.	950.	37	0.	37	0.	37	0.	500.
39	12	50	0.	700.	37	0.	37	0.	37	0.	500.

**M-1**

WYR	MO	FCSPSN	FRCSTH	SYSCON SNAKE	SYSCON H.FORK	RENT POOL	XCUR CANAL	GAIN MINDKA	USED BURLEY	TOTAL XCUT	H.FORK SMSHRT
40	1	0.	0.	19229.	1476.	0.	0.	0.	0.	0.	0.
40	2	0.	0.	21981.	1619.	0.	0.	0.	0.	0.	0.
40	3	0.	0.	25530.	1624.	0.	0.	0.	0.	0.	0.
40	4	0.	3023.	29218.	1831.	0.	0.	0.	0.	0.	0.
40	5	0.	2669.	32732.	2042.	0.	0.	0.	0.	0.	0.
40	6	0.	2418.	36332.	2235.	0.	0.	0.	0.	0.	0.
40	7	0.	2149.	37912.	2323.	66824.	0.	0.	0.	0.	0.
40	8	0.	1832.	37711.	2323.	383383.	0.	0.	0.	0.	0.
40	9	0.	681.	34780.	2196.	382554.	0.	0.	0.	3107.	0.
40	10	0.	198.	25754.	1699.	377699.	0.	6175.	3325.	16310.	0.
40	11	0.	0.	17341.	1489.	352839.	46.	12090.	6510.	12224.	0.
40	12	0.	0.	16047.	1718.	347650.	0.	0.	0.	0.	0.
41	1	0.	0.	17196.	1723.	0.	0.	0.	0.	0.	0.
41	2	0.	0.	20135.	1863.	0.	0.	0.	0.	0.	0.
41	3	0.	0.	23767.	1851.	0.	0.	0.	0.	0.	0.
41	4	0.	3090.	27408.	2051.	0.	0.	0.	0.	0.	0.
41	5	0.	2755.	30874.	2034.	0.	0.	0.	0.	0.	0.
41	6	0.	2531.	34532.	2186.	0.	0.	0.	0.	0.	0.
41	7	0.	2288.	36155.	2345.	77611.	0.	0.	0.	0.	0.
41	8	0.	2016.	36524.	2254.	77611.	0.	0.	0.	0.	0.
41	9	0.	857.	35360.	2345.	393211.	0.	0.	4900.	40.	0.
41	10	0.	290.	27560.	1849.	386494.	0.	7995.	4305.	13875.	0.
41	11	0.	0.	20704.	1711.	378152.	0.	13195.	7105.	2515.	0.
41	12	0.	0.	17427.	1927.	371790.	0.	26159.	17535.	0.	0.
42	1	0.	0.	18442.	1941.	0.	0.	0.	0.	0.	0.
42	2	0.	0.	22141.	1965.	0.	0.	0.	0.	0.	0.
42	3	0.	0.	26552.	1991.	0.	0.	0.	0.	0.	0.
42	4	0.	3471.	30210.	1972.	0.	0.	0.	0.	0.	0.
42	5	0.	3207.	33495.	1948.	0.	0.	0.	0.	0.	0.
42	6	0.	3012.	37024.	2084.	0.	0.	0.	0.	0.	0.
42	7	0.	2822.	38179.	2340.	77611.	0.	0.	0.	0.	0.
42	8	0.	2366.	39423.	2345.	77611.	0.	0.	0.	0.	0.
42	9	20.	1269.	40249.	2345.	394150.	0.	0.	11305.	100.	0.
42	10	0.	449.	33689.	2132.	392984.	0.	0.	0.	8363.	0.
42	11	0.	0.	24709.	1831.	388908.	0.	3250.	1750.	12466.	0.
42	12	0.	0.	21221.	1642.	382991.	0.	23989.	13370.	16601.	0.
20.	16596.	365334.	24535.	*****	0.	27239.	26425.	37530.	0.	0.	0.



UPPER SNAKE RIVER DIGITAL MODEL															1-M
1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS															
FL RIV H.FORK TT RIV TT RIV H.FORK SHELLY BLKFT AMERICAN FALLS LAKE WALCOTT MILNER															
WYR MO CHESTR STANTY STANTY OUTFLO REXBRG FLOW FLOW INFLOW EOM OUTFLO INFLOW EOM OUTFLO FLOW															
40	1	193.	881.	315.	133.	1057.	1491.	483.	2458.	2539.	1119.	1192.	700.	778.	129.
40	2	254.	735.	258.	200.	920.	1514.	1313.	2942.	4930.	550.	614.	700.	614.	133.
40	3	259.	818.	247.	234.	1000.	1965.	2048.	3716.	8037.	610.	676.	700.	676.	690.
40	4	255.	637.	216.	211.	816.	1665.	1605.	3274.	11266.	45.	147.	700.	147.	251.
40	5	244.	595.	225.	224.	761.	1578.	1520.	3079.	14318.	28.	149.	700.	149.	267.
40	6	268.	658.	338.	337.	887.	1414.	1339.	2917.	17000.	235.	298.	810.	188.	160.
40	7	516.	1237.	342.	307.	1307.	2162.	1649.	3280.	17000.	3101.	3131.	970.	2579.	1065.
40	8	1390.	1892.	831.	379.	1788.	4525.	2418.	4244.	14575.	6400.	6360.	951.	4696.	0.
40	9	751.	1124.	712.	218.	1313.	4458.	2384.	4175.	11568.	6836.	6753.	951.	5117.	0.
40	10	6.	464.	396.	25.	244.	2269.	307.	2225.	5710.	7529.	7499.	952.	5679.	200.
40	11	75.	392.	336.	18.	210.	1921.	307.	2171.	314.	7155.	7179.	952.	5511.	200.
40	12	67.	248.	301.	84.	256.	1702.	870.	2741.	1.	2946.	3165.	699.	2862.	50.
4277. 9681. 4517. 2370. 10559. 26664. 16243. 37222. 107260. 36554. 37163. 9783. 28996. 3145.															
41	1	180.	832.	296.	106.	974.	1661.	690.	2594.	1666.	887.	1085.	700.	699.	132.
41	2	234.	723.	260.	198.	919.	1502.	1426.	3026.	4195.	497.	625.	700.	625.	151.
41	3	233.	828.	227.	212.	1033.	1985.	2064.	3688.	7421.	462.	619.	700.	619.	644.
41	4	235.	614.	208.	203.	793.	1648.	1617.	3290.	10679.	33.	136.	700.	136.	257.
41	5	207.	738.	187.	186.	881.	1575.	1587.	3180.	13832.	27.	195.	700.	195.	278.
41	6	237.	670.	393.	392.	997.	1479.	1352.	3024.	16695.	160.	195.	700.	195.	165.
41	7	383.	838.	307.	272.	953.	1164.	790.	2659.	16448.	2735.	2738.	950.	2240.	0.
41	8	1032.	1499.	867.	459.	1425.	4655.	2914.	4897.	14666.	6416.	6301.	951.	4726.	0.
41	9	350.	498.	897.	372.	747.	3464.	1444.	3299.	11990.	5616.	5597.	951.	4274.	0.
41	10	4.	464.	503.	113.	394.	2413.	307.	2244.	6472.	7192.	7197.	952.	5414.	200.
41	11	0.	380.	406.	93.	324.	1921.	307.	2269.	1426.	6888.	6882.	952.	5318.	200.
41	12	111.	259.	352.	133.	307.	1904.	774.	2431.	1.	3714.	3953.	699.	3254.	50.
3204. 8343. 4903. 2739. 9747. 25371. 15272. 36601. 105491. 34628. 35524. 9654. 27695. 2077.															
42	1	199.	822.	330.	143.	1009.	1483.	428.	2400.	1197.	1163.	1340.	700.	987.	152.
42	2	263.	810.	280.	219.	1008.	1669.	1642.	3322.	4197.	321.	613.	700.	613.	121.
42	3	268.	848.	303.	289.	1107.	2143.	2268.	4050.	7763.	485.	681.	700.	681.	743.
42	4	215.	783.	247.	242.	980.	1841.	1599.	3417.	10929.	251.	165.	700.	165.	264.
42	5	210.	690.	211.	210.	826.	1277.	1138.	2633.	13535.	27.	58.	700.	58.	181.
42	6	236.	624.	225.	224.	795.	1577.	1511.	3186.	16640.	80.	71.	700.	71.	156.
42	7	527.	995.	536.	497.	1271.	4537.	4218.	6136.	17000.	5599.	5508.	970.	5044.	3155.
42	8	809.	1709.	927.	613.	1667.	6175.	4782.	7078.	17000.	6797.	6796.	970.	5866.	1792.
42	9	805.	1300.	1180.	575.	1493.	7106.	4861.	6652.	17000.	6248.	6241.	970.	4619.	413.
42	10	132.	482.	628.	159.	416.	2400.	307.	2257.	11122.	7521.	7427.	952.	5544.	200.
42	11	0.	414.	367.	20.	220.	1960.	307.	2230.	5557.	7305.	7229.	952.	5448.	200.
42	12	0.	430.	311.	80.	402.	1350.	297.	1986.	3156.	4198.	4253.	699.	3440.	50.
3663. 9908. 5545. 3271. 11195. 33518. 23358. 45347. 125096. 39995. 40382. 9712. 32535. 7426.															



		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW148	
40	1	20.	500.	353.	0.	144.	0.	353.	
40	2	16.	501.	15.	0.	21.	0.	15.	
40	3	18.	500.	19.	0.	0.	0.	19.	
40	4	26.	511.	15.	0.	0.	0.	15.	
40	5	24.	500.	35.	0.	0.	0.	35.	
40	6	45.	530.	15.	0.	0.	0.	15.	
40	7	67.	581.	15.	0.	0.	0.	15.	
40	8	101.	666.	15.	0.	138.	0.	15.	
40	9	92.	742.	15.	0.	239.	0.	14.	
40	10	40.	765.	15.	0.	322.	0.	15.	
40	11	13.	762.	15.	0.	209.	0.	16.	
40	12	19.	765.	15.	0.	180.	0.	15.	
41	1	20.	500.	285.	0.	144.	0.	285.	
41	2	15.	500.	15.	0.	21.	0.	15.	
41	3	17.	500.	17.	0.	0.	0.	17.	
41	4	13.	498.	15.	0.	0.	0.	15.	
41	5	25.	509.	14.	0.	0.	0.	14.	
41	6	51.	544.	15.	0.	0.	0.	15.	
41	7	154.	683.	15.	0.	0.	0.	15.	
41	8	254.	900.	36.	0.	113.	0.	36.	
41	9	128.	900.	127.	0.	225.	0.	127.	
41	10	46.	900.	45.	0.	316.	0.	45.	
41	11	24.	900.	23.	0.	272.	0.	23.	
41	12	18.	900.	17.	0.	251.	0.	17.	
42	1	22.	500.	421.	0.	144.	0.	422.	
42	2	21.	506.	15.	0.	21.	0.	15.	
42	3	26.	500.	32.	0.	0.	0.	32.	
42	4	27.	512.	15.	0.	0.	0.	15.	
42	5	21.	500.	33.	0.	0.	0.	33.	
42	6	45.	530.	15.	0.	0.	0.	15.	
42	7	252.	766.	15.	0.	0.	0.	15.	
42	8	343.	900.	208.	0.	66.	0.	208.	
42	9	149.	900.	148.	0.	296.	0.	148.	
42	10	45.	900.	44.	0.	322.	0.	43.	
42	11	17.	900.	16.	0.	297.	0.	16.	
42	12	17.	900.	16.	0.	203.	0.	16.	

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES				ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	PALISADES	AMERICAN FALLS	ISLAND PARK				
40	1	16	5.	700.	37	0.	0.	11 3250.	0.	59	0.	0.	50.
40	2	16	5.	700.	37	0.	0.	11 2250.	0.	58	5.	0.	0.
40	3	16	5.	700.	37	0.	0.	11 2250.	0.	12	400.	0.	500.
40	4	15	0.	700.	37	0.	0.	12 1500.	0.	10	0.	0.	0.
40	5	15	0.	700.	37	0.	0.	11 2750.	0.	10	0.	0.	500.
40	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	0.
40	7	50	0.	950.	37	0.	0.	37	0.	37	0.	0.	0.
40	8	50	0.	950.	37	0.	0.	37	0.	8470.	12 750.	0.	0.
40	9	50	0.	950.	37	0.	0.	37	0.	8470.	12 750.	0.	0.
40	10	50	0.	950.	37	0.	0.	37	0.	0.	37	0.	0.
40	11	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	0.
40	12	50	0.	700.	37	0.	0.	37	0.	0.	37	0.	0.
41	1	16	5.	700.	37	0.	0.	11 3250.	0.	59	0.	0.	500.
41	2	16	5.	700.	37	0.	0.	11 2250.	0.	58	5.	0.	0.
41	3	16	5.	700.	37	0.	0.	11 2250.	0.	12	400.	0.	500.
41	4	15	0.	700.	37	0.	0.	12 1500.	0.	10	0.	0.	0.
41	5	15	0.	700.	37	0.	0.	11 2750.	0.	10	0.	0.	0.
41	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	0.
41	7	50	0.	950.	37	0.	0.	37	0.	12 100.	0.	0.	0.
41	8	50	0.	950.	37	0.	0.	37	0.	8470.	12 750.	0.	0.
41	9	50	0.	950.	37	0.	0.	37	0.	8470.	37	0.	0.
41	10	50	0.	950.	37	0.	0.	37	0.	0.	12 750.	0.	0.
41	11	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	0.
41	12	50	0.	700.	37	0.	0.	37	0.	0.	37	0.	0.
42	1	16	5.	700.	37	0.	0.	11 3250.	0.	59	0.	0.	500.
42	2	16	5.	700.	37	0.	0.	11 2250.	0.	58	0.	0.	0.
42	3	16	5.	700.	37	0.	0.	11 2250.	0.	12	400.	0.	500.
42	4	15	0.	700.	37	0.	0.	12 1500.	0.	10	0.	0.	0.
42	5	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	500.
42	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	0.
42	7	50	0.	950.	37	0.	0.	37	0.	12 100.	0.	0.	0.
42	8	50	0.	950.	37	0.	0.	37	0.	8470.	12 750.	0.	0.
42	9	50	0.	950.	37	0.	0.	45	0.	0.	12 750.	0.	0.
42	10	50	0.	950.	37	0.	0.	37	0.	0.	37	0.	0.
42	11	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	0.
42	12	50	0.	700.	37	0.	0.	37	0.	0.	12 750.	0.	0.





UPPER KE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS										LAKE WALCOTT										MILNER									
FL RIV H.FORK TT RIV TT RIV H.FORK SHELLY BLKFT AMERICAN FALLS										LAKE WALCOTT										MILNER																			
WYR MO CHESTR STANTY																																							

		RIRIE					PUMP FLOW 148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW
43	1	21.	500.	420.	0.	144.	0.	421.	0.	421.	
43	2	25.	510.	15.	0.	21.	0.	15.	0.	15.	
43	3	27.	500.	37.	0.	0.	0.	37.	0.	37.	
43	4	34.	519.	15.	0.	0.	0.	15.	0.	15.	
43	5	28.	500.	47.	0.	0.	0.	47.	0.	47.	
43	6	58.	543.	15.	0.	0.	0.	15.	0.	15.	
43	7	309.	836.	15.	0.	0.	0.	15.	0.	15.	
43	8	311.	800.	346.	0.	85.	0.	346.	0.	346.	
43	9	163.	900.	62.	0.	252.	0.	62.	0.	62.	
43	10	49.	900.	48.	0.	394.	0.	47.	0.	47.	
43	11	26.	900.	25.	0.	324.	0.	25.	0.	25.	
43	12	21.	900.	20.	0.	233.	0.	20.	0.	20.	
44	1	26.	500.	425.	0.	144.	0.	426.	0.	426.	
44	2	32.	517.	15.	0.	21.	0.	15.	0.	15.	
44	3	31.	500.	48.	0.	0.	0.	48.	0.	48.	
44	4	38.	523.	15.	0.	0.	0.	15.	0.	15.	
44	5	28.	500.	51.	0.	0.	0.	51.	0.	51.	
44	6	51.	536.	15.	0.	0.	0.	15.	0.	15.	
44	7	154.	674.	15.	0.	0.	0.	15.	0.	15.	
44	8	240.	898.	15.	0.	45.	0.	16.	0.	16.	
44	9	168.	900.	165.	0.	129.	0.	165.	0.	165.	
44	10	35.	900.	34.	0.	304.	0.	34.	0.	34.	
44	11	17.	900.	16.	0.	308.	0.	16.	0.	16.	
44	12	16.	900.	15.	0.	168.	0.	15.	0.	15.	
45	1	21.	500.	420.	0.	144.	0.	421.	0.	421.	
45	2	26.	511.	15.	0.	21.	0.	15.	0.	15.	
45	3	25.	500.	36.	0.	0.	0.	36.	0.	36.	
45	4	33.	518.	15.	0.	0.	0.	15.	0.	15.	
45	5	45.	500.	63.	0.	0.	0.	63.	0.	63.	
45	6	50.	535.	15.	0.	0.	0.	15.	0.	15.	
45	7	153.	672.	15.	0.	0.	0.	15.	0.	15.	
45	8	382.	600.	453.	0.	58.	0.	453.	0.	453.	
45	9	219.	803.	15.	0.	154.	0.	15.	0.	15.	
45	10	57.	843.	15.	0.	330.	0.	16.	0.	16.	
45	11	31.	858.	15.	0.	291.	0.	16.	0.	16.	
45	12	30.	872.	15.	0.	200.	0.	15.	0.	15.	



WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE					
						JACKSON LAKE	JACKSON LAKE									
43	1	16	15.	700.	37	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
43	2	16	5.	700.	37	0.	0.	58	5.	58	0.	10	0.	10	0.	0.
43	3	16	5.	700.	37	0.	0.	12	400.	12	0.	10	0.	10	0.	500.
43	4	15	0.	700.	37	0.	0.	12	50.	12	0.	0.	0.	10	0.	0.
43	5	15	0.	700.	37	0.	0.	12	400.	12	0.	53	0.	50	0.	500.
43	6	15	0.	700.	37	0.	0.	12	100.	53	0.	53	0.	10	0.	0.
43	7	50	0.	950.	37	0.	0.	37	0.	53	0.	53	0.	10	0.	800.
43	8	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
43	9	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
43	10	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
43	11	50	0.	950.	37	0.	0.	12	750.	12	100.	37	0.	10	0.	0.
43	12	50	0.	700.	37	0.	0.	12	750.	12	100.	49	0.	130.	10	0.
44	1	14	4600.	700.	37	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
44	2	14	4600.	700.	37	0.	0.	59	0.	58	0.	10	0.	10	0.	0.
44	3	16	15.	700.	49	0.	13000.	12	400.	12	0.	10	0.	50	0.	500.
44	4	16	5.	700.	37	0.	0.	12	50.	12	0.	10	0.	10	0.	0.
44	5	14	1500.	700.	37	0.	0.	12	400.	53	0.	10	0.	50	0.	500.
44	6	15	0.	700.	37	0.	0.	12	400.	53	0.	10	0.	10	0.	0.
44	7	50	0.	950.	37	0.	0.	37	0.	53	0.	10	0.	10	0.	0.
44	8	50	0.	950.	37	0.	0.	8470.	12	53	0.	10	0.	10	0.	0.
44	9	50	0.	950.	37	0.	0.	8470.	12	53	0.	10	0.	10	0.	0.
44	10	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
44	11	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
44	12	50	0.	700.	37	0.	0.	12	750.	12	100.	37	0.	10	0.	0.
44	12	50	0.	700.	37	0.	0.	12	750.	12	100.	12	50.	10	0.	0.
45	1	16	15.	700.	37	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
45	2	16	15.	700.	37	0.	0.	59	0.	58	0.	10	0.	10	0.	0.
45	3	16	5.	700.	37	0.	0.	12	400.	12	0.	10	0.	50	0.	500.
45	4	15	0.	700.	37	0.	0.	12	50.	12	0.	10	0.	10	0.	0.
45	5	15	0.	700.	37	0.	0.	12	400.	12	0.	10	0.	50	0.	500.
45	6	15	0.	700.	37	0.	0.	12	100.	12	0.	10	0.	10	0.	0.
45	7	50	0.	950.	37	0.	0.	12	100.	53	0.	10	0.	10	0.	0.
45	8	50	0.	950.	37	0.	0.	12	750.	53	0.	10	0.	50	0.	600.
45	9	50	0.	950.	37	0.	0.	12	750.	37	0.	10	0.	10	0.	0.
45	10	50	0.	950.	37	0.	0.	12	750.	37	0.	37	0.	10	0.	0.
45	11	50	0.	950.	37	0.	0.	12	750.	12	100.	37	0.	10	0.	0.
45	12	50	0.	700.	37	0.	0.	12	750.	12	100.	49	0.	130.	10	0.

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS

WYR	MO	FCSPSN	FRCSH	SNAKE	SYSCON	RENT	XCUT	GAIN	USED	BY	TOTAL	H. FORK
							CANAL	MINDKA	BURLEY		XCUT	SMSHRT

46	1	0.	0.	28417.	1895.	0.	0.	0.	0.	0.	0.	0.
46	2	0.	0.	29899.	1927.	0.	0.	0.	0.	0.	0.	0.
46	3	0.	0.	33410.	1966.	0.	0.	0.	0.	0.	0.	0.
46	4	0.	4006.	33876.	2201.	0.	0.	0.	0.	0.	0.	0.
46	5	0.	3837.	36735.	2221.	0.	0.	0.	0.	0.	0.	0.
46	6	0.	3677.	38006.	2333.	0.	0.	0.	0.	0.	0.	0.
46	7	0.	3496.	39672.	2334.	0.	0.	0.	0.	0.	0.	0.
46	8	400.	2777.	39807.	2345.	0.	0.	0.	2912.	0.	0.	0.
46	9	30.	1283.	40238.	2330.	77611.	0.	0.	596.	0.	0.	0.
46	10	0.	438.	33531.	2068.	394079.	0.	7410.	3990.	14857.	0.	0.
46	11	0.	0.	26372.	1842.	393547.	0.	14105.	7595.	9609.	0.	0.
46	12	0.	0.	25036.	1692.	393474.	0.	14189.	17885.	0.	0.	0.

430.	19514.	404999.	25155.	*****	0.	35704.	32978.	24466.	0.			
47	1	0.	0.	24976.	1724.	0.	0.	0.	0.	0.	0.	0.
47	2	0.	0.	27499.	1918.	0.	0.	0.	0.	0.	0.	0.
47	3	0.	0.	30996.	2019.	0.	0.	0.	0.	0.	0.	0.
47	4	0.	3930.	34162.	2042.	0.	0.	0.	0.	0.	0.	0.
47	5	0.	3754.	36065.	2039.	0.	0.	0.	0.	0.	0.	0.
47	6	0.	3593.	37182.	2263.	0.	0.	0.	0.	0.	0.	0.
47	7	0.	3411.	37943.	2333.	0.	0.	0.	0.	0.	0.	0.
47	8	690.	3105.	39555.	2345.	0.	0.	0.	5110.	0.	0.	0.
47	9	300.	1485.	39968.	2345.	77611.	0.	0.	0.	0.	0.	0.
47	10	0.	569.	34086.	2112.	394170.	0.	7410.	3990.	13348.	0.	0.
47	11	0.	0.	27399.	1918.	393771.	0.	13000.	7000.	8334.	0.	0.
47	12	0.	0.	25177.	1776.	392200.	0.	10118.	14245.	0.	0.	0.

990.	19847.	395009.	24835.	*****	0.	30528.	30345.	21681.	0.			
48	1	0.	0.	24263.	1808.	0.	0.	0.	0.	0.	0.	0.
48	2	0.	0.	26721.	1847.	0.	0.	0.	0.	0.	0.	0.
48	3	0.	0.	30076.	1905.	0.	0.	0.	0.	0.	0.	0.
48	4	0.	3369.	33546.	2152.	0.	0.	0.	0.	0.	0.	0.
48	5	0.	3087.	36460.	2188.	0.	0.	0.	0.	0.	0.	0.
48	6	0.	3000.	37293.	2332.	0.	0.	0.	0.	0.	0.	0.
48	7	0.	2812.	38525.	2333.	0.	0.	0.	0.	0.	0.	0.
48	8	350.	2703.	39958.	2345.	0.	0.	0.	0.	0.	0.	0.
48	9	310.	1518.	39958.	2345.	77611.	0.	0.	2450.	0.	0.	0.
48	10	0.	276.	32493.	2131.	394170.	0.	2600.	1400.	12557.	0.	0.
48	11	0.	0.	24739.	1941.	392989.	0.	13910.	7490.	9199.	0.	0.
48	12	0.	0.	21691.	1757.	392362.	0.	9118.	16170.	0.	0.	0.
660.	16765.	385724.	25085.	*****	0.	25628.	27510.	21756.	0.			

1-M

UPPER KEE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

JACKSON LAKE				PALISADES				HEISE	HENRYS LAKE		ISLAND PARK		H. FORK ASHTON		GRASSY LAKE	
WYR	MO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	FLOW	EOM	OUTFLO	INFLOW	SEEPAG	EOM	OUTFLO	EOM	OUTFLO
46	1	326.	5846.	290.	2237.	14000.	2209.	2493.	796.	0.	280.	0.	969.	280.	739.	131.
46	2	313.	5846.	313.	1988.	13400.	2588.	2836.	826.	0.	261.	0.	969.	261.	728.	133.
46	3	349.	5846.	349.	1825.	12800.	2425.	2653.	843.	7.	265.	0.	987.	246.	697.	136.
46	4	330.	6145.	31.	1293.	12200.	1893.	2092.	843.	20.	265.	0.	1222.	31.	455.	137.
46	5	358.	6476.	28.	1115.	12760.	555.	735.	843.	16.	240.	0.	1240.	222.	616.	139.
46	6	356.	6801.	31.	1504.	13649.	615.	842.	843.	35.	272.	0.	1350.	162.	621.	140.
46	7	1086.	7822.	30.	6200.	14000.	5817.	6201.	843.	54.	601.	0.	1350.	589.	1478.	141.
46	8	2775.	8287.	2247.	10345.	13720.	10577.	11178.	843.	65.	731.	0.	1350.	709.	1579.	152.
46	9	2843.	8361.	2667.	10108.	13978.	9784.	10364.	843.	57.	463.	0.	1335.	446.	1007.	152.
46	10	1323.	7728.	1845.	5792.	13706.	5987.	6315.	843.	17.	335.	0.	1073.	555.	1049.	152.
46	11	608.	6385.	1845.	4182.	13147.	4671.	4980.	779.	61.	370.	0.	911.	498.	959.	152.
46	12	424.	5258.	1488.	3533.	14000.	2635.	2893.	739.	60.	376.	0.	822.	446.	860.	130.
		11091.	80800.	11163.	50122.	161359.	49756.	53581.	9884.	392.	4459.	0.	13578.	4446.	10789.	1692.
47	1	380.	5258.	345.	2259.	14000.	2231.	2517.	780.	0.	349.	0.	814.	349.	822.	131.
47	2	291.	5258.	291.	1888.	13400.	2488.	2724.	822.	0.	302.	0.	965.	151.	607.	132.
47	3	330.	5258.	330.	1886.	12800.	2486.	2722.	843.	22.	323.	0.	1042.	246.	676.	135.
47	4	304.	5531.	31.	1220.	12200.	1820.	2007.	843.	8.	268.	0.	1064.	246.	667.	136.
47	5	216.	5719.	28.	1201.	12846.	555.	729.	843.	9.	217.	0.	1059.	222.	608.	138.
47	6	283.	5972.	31.	1509.	13668.	686.	906.	843.	36.	284.	0.	1281.	61.	521.	139.
47	7	370.	6278.	30.	2813.	14000.	2449.	2617.	843.	50.	389.	0.	1350.	309.	916.	140.
47	8	3440.	8201.	1455.	10015.	13517.	10450.	11112.	843.	75.	759.	0.	1350.	737.	1542.	152.
47	9	3340.	8293.	3146.	10823.	13775.	10499.	11120.	843.	61.	617.	0.	1350.	585.	1229.	152.
47	10	1588.	7925.	1845.	6897.	14000.	6595.	6994.	843.	43.	370.	0.	1117.	561.	1043.	152.
47	11	766.	6739.	1845.	4906.	14000.	4834.	5230.	807.	61.	338.	0.	959.	461.	947.	152.
47	12	495.	5683.	1488.	3550.	14000.	3504.	3771.	772.	60.	380.	0.	874.	446.	879.	130.
		11803.	76116.	10863.	48966.	162206.	48598.	52450.	9925.	425.	4596.	0.	13223.	4375.	10458.	1686.
48	1	322.	5683.	287.	2085.	14000.	2056.	2321.	813.	0.	312.	0.	865.	312.	746.	131.
48	2	296.	5683.	296.	1846.	13400.	2446.	2676.	843.	7.	284.	0.	872.	277.	697.	133.
48	3	268.	5683.	268.	1664.	12800.	2264.	2472.	843.	27.	302.	0.	928.	246.	675.	135.
48	4	296.	5948.	31.	1316.	12200.	1916.	2113.	843.	28.	277.	0.	1174.	31.	464.	136.
48	5	263.	6182.	29.	1153.	12778.	575.	748.	843.	26.	264.	0.	1208.	230.	639.	138.
48	6	262.	6414.	31.	1182.	13345.	615.	791.	843.	28.	275.	0.	1350.	133.	558.	139.
48	7	447.	6796.	30.	2467.	14000.	1780.	1934.	843.	40.	360.	0.	1350.	348.	879.	140.
48	8	2539.	8303.	970.	8771.	13755.	8968.	9539.	843.	71.	665.	0.	1350.	643.	1657.	152.
48	9	3782.	8291.	3692.	12587.	13768.	12508.	13219.	843.	102.	554.	0.	1350.	522.	1163.	152.
48	10	1308.	7643.	1845.	5099.	12786.	6006.	6296.	843.	31.	344.	0.	1136.	516.	1000.	152.
48	11	622.	6314.	1845.	3876.	11803.	4793.	5076.	787.	61.	363.	0.	1002.	461.	907.	152.
48	12	350.	5114.	1488.	3249.	12182.	2828.	3048.	739.	60.	351.	0.	888.	446.	845.	130.
		10755.	78053.	10810.	45294.	156817.	46755.	50233.	9926.	481.	4351.	0.	13471.	4166.	10231.	1687.
																75.

UPPER SNAKE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS										1-M	
		FL RIV H.FORK		TT RIV		H.FORK		SHELLY		BLKFT		AMERICAN FALLS		LAKE		WALCOTT		MILNER			
WYR MO		CHESTR		STANTY		STANTY		OUTFLO		REXBRG		FLOW		INFLOW		EOM		OUTFLO		FLOW	
46	1	225.	987.	393.	207.	1268.	2387.	1562.	3640.	8071.	3275.	3380.	700.	2828.	2068.						
46	2	334.	1040.	342.	282.	1312.	3504.	3580.	5245.	10133.	3182.	3382.	700.	3382.	2618.						
46	3	329.	956.	301.	287.	1201.	3761.	3913.	5778.	14264.	1647.	1838.	700.	1838.	1841.						
46	4	292.	708.	267.	262.	942.	2801.	2759.	4580.	15000.	3844.	3969.	970.	3699.	3745.						
46	5	251.	840.	227.	226.	1041.	1536.	1397.	2955.	17000.	955.	1100.	970.	1100.	1139.						
46	6	288.	887.	373.	372.	1240.	2018.	1802.	3844.	17000.	3844.	4037.	970.	4037.	3920.						
46	7	817.	1954.	754.	719.	2391.	7326.	6805.	8475.	17000.	8297.	8490.	970.	8141.	6234.						
46	8	984.	1807.	985.	530.	2033.	10726.	9388.	11486.	17000.	11203.	11357.	970.	9756.	4904.						
46	9	654.	1073.	876.	376.	1395.	8284.	6766.	8790.	17000.	8404.	8460.	970.	7022.	2062.						
46	10	79.	450.	553.	128.	364.	2206.	307.	2188.	11198.	7387.	7408.	952.	5541.	200.						
46	11	2.	418.	398.	68.	312.	1851.	307.	2284.	5940.	7058.	7124.	952.	5449.	200.						
46	12	120.	807.	363.	176.	987.	1649.	829.	2643.	4878.	3518.	3678.	699.	3049.	50.						
		4375.	11928.	5832.	3633.	14487.	48049.	39415.	61908.	154484.	62613.	64222.	10522.	55843.	28982.						
47	1	289.	1129.	358.	174.	1371.	2577.	1590.	3652.	5218.	3218.	3371.	700.	3079.	2301.						
47	2	327.	937.	329.	269.	1222.	3300.	3283.	5205.	8316.	2107.	2230.	700.	2229.	1693.						
47	3	330.	916.	305.	292.	1144.	3782.	3847.	5735.	12438.	1613.	1691.	700.	1691.	1714.						
47	4	317.	901.	229.	224.	1053.	2676.	2510.	4280.	15906.	813.	953.	700.	953.	1050.						
47	5	271.	819.	240.	239.	999.	1643.	1543.	3097.	17000.	2003.	2161.	970.	1891.	2017.						
47	6	292.	636.	348.	347.	809.	1414.	1391.	3005.	17000.	3005.	3144.	970.	3144.	3076.						
47	7	420.	1028.	324.	285.	1063.	3225.	2769.	4495.	17000.	4317.	4286.	970.	3739.	1760.						
47	8	1221.	2075.	1015.	580.	2134.	9999.	7761.	9480.	17000.	9191.	9220.	970.	7522.	2458.						
47	9	877.	1551.	1002.	523.	1898.	9761.	7698.	9525.	17000.	9134.	9243.	970.	8243.	3989.						
47	10	61.	461.	624.	143.	535.	2532.	480.	2497.	11261.	7613.	7637.	952.	5748.	200.						
47	11	58.	467.	444.	115.	469.	2087.	374.	2206.	5760.	7217.	7216.	952.	5502.	200.						
47	12	143.	824.	354.	154.	955.	2241.	1248.	3040.	4594.	4015.	4041.	699.	3222.	50.						
		4606.	11746.	5572.	3345.	13654.	45236.	34493.	56216.	148493.	54244.	55191.	10252.	46963.	20508.						
48	1	224.	1003.	333.	150.	1236.	2094.	1104.	3163.	4080.	3587.	3576.	700.	3096.	2343.						
48	2	302.	1035.	311.	252.	1339.	3378.	3398.	5150.	7125.	2105.	2166.	700.	2166.	1594.						
48	3	322.	947.	255.	242.	1165.	3627.	3645.	5555.	11093.	1587.	1643.	700.	1643.	1722.						
48	4	304.	716.	253.	248.	924.	2804.	2676.	4548.	14883.	758.	925.	700.	925.	1132.						
48	5	281.	879.	211.	210.	1048.	1562.	1440.	3078.	17000.	961.	1168.	970.	898.	1019.						
48	6	284.	805.	226.	225.	996.	1490.	1338.	3062.	17000.	3062.	3131.	970.	3131.	3073.						
48	7	338.	1042.	491.	456.	1381.	3050.	2716.	4678.	17000.	4500.	4602.	970.	4317.	2444.						
48	8	1273.	2347.	1084.	815.	2660.	10060.	9094.	10989.	17000.	10728.	10738.	970.	9157.	4082.						
48	9	1253.	1663.	1276.	714.	2323.	11786.	10066.	12003.	17000.	11620.	11731.	970.	10154.	5143.						
48	10	135.	466.	557.	123.	457.	2238.	307.	2310.	11164.	7525.	7523.	952.	5638.	200.						
48	11	13.	440.	378.	75.	416.	1891.	307.	2271.	5721.	7220.	7269.	952.	5573.	200.						
48	12	102.	713.	317.	83.	785.	1229.	297.	2078.	3495.	4115.	4246.	699.	3498.	50.						
		4831.	12057.	5692.	3593.	14731.	45209.	36388.	58885.	142563.	57769.	58719.	10252.	50196.	23002.						

		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	DIVRTD	PUMP	FLOW148
46	1	33.	500.	405.	0.	144.	0.	405.	
46	2	34.	519.	15.	0.	21.	0.	15.	
46	3	41.	500.	60.	0.	0.	0.	60.	
46	4	46.	531.	15.	0.	0.	0.	15.	
46	5	28.	500.	59.	0.	0.	0.	59.	
46	6	72.	557.	15.	0.	0.	0.	15.	
46	7	309.	850.	15.	0.	0.	0.	15.	
46	8	400.	800.	449.	0.	128.	0.	450.	
46	9	126.	900.	25.	0.	291.	0.	25.	
46	10	49.	900.	48.	0.	353.	0.	48.	
46	11	29.	900.	28.	0.	297.	0.	28.	
46	12	25.	900.	24.	0.	230.	0.	24.	
47	1	34.	500.	433.	0.	144.	0.	434.	
47	2	40.	525.	15.	0.	21.	0.	15.	
47	3	44.	500.	69.	0.	0.	0.	69.	
47	4	40.	525.	15.	0.	0.	0.	15.	
47	5	43.	500.	68.	0.	0.	0.	68.	
47	6	57.	542.	15.	0.	0.	0.	15.	
47	7	139.	665.	15.	0.	0.	0.	15.	
47	8	188.	837.	15.	0.	118.	0.	15.	
47	9	97.	900.	33.	0.	234.	0.	33.	
47	10	31.	900.	30.	0.	385.	0.	30.	
47	11	20.	900.	19.	0.	283.	0.	19.	
47	12	19.	900.	18.	0.	180.	0.	18.	
48	1	28.	500.	427.	0.	144.	0.	428.	
48	2	28.	513.	15.	0.	21.	0.	15.	
48	3	25.	500.	38.	0.	0.	0.	38.	
48	4	30.	515.	15.	0.	0.	0.	15.	
48	5	46.	500.	61.	0.	0.	0.	61.	
48	6	50.	535.	15.	0.	0.	0.	15.	
48	7	209.	728.	15.	0.	0.	0.	15.	
48	8	386.	900.	213.	0.	62.	0.	214.	
48	9	115.	900.	114.	0.	264.	0.	114.	
48	10	38.	900.	37.	0.	368.	0.	36.	
48	11	20.	900.	19.	0.	267.	0.	19.	
48	12	19.	900.	18.	0.	206.	0.	18.	

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	JACKSON LAKE	ISLAND PARK	HENRY'S LAKE	GRASSY LAKE	RIRIE
46	1	14	4600.	700. 37	0. 11 3250.	0. 53	0. 59	0. 37	0. 10	0. 50
46	2	16	20.	700. 37	0. 30	0. 53	0. 59	0. 58	0. 10	0. 500.
46	3	16	10.	700. 37	0. 30	0. 53	0. 12 400.	0. 12	0. 10	0. 500.
46	4	16	5.	700. 49	0. 15000.	0. 10	0. 12 400.	0. 53	0. 10	0. 500.
46	5	15	0.	700. 37	0. 10	0. 10	0. 12 400.	0. 53	0. 10	0. 500.
46	6	15	0.	700. 37	0. 10	0. 10	0. 12 100.	0. 53	0. 10	0. 500.
46	7	50	0.	950. 37	0. 37	0. 10	0. 37	0. 53	0. 10	0. 800.
46	8	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 53	0. 10	0. 500.
46	9	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 37	0. 37	0. 500.
46	10	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 37	0. 37	0. 500.
46	11	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12 100.	0. 37	0. 500.
46	12	50	0.	700. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12 100.	0. 49	0. 500.
47	1	16	20.	700. 37	0. 11 3250.	0. 53	0. 59	0. 37	0. 10	0. 500.
47	2	16	15.	700. 37	0. 30	0. 53	0. 58	0. 58	0. 10	0. 500.
47	3	16	10.	700. 37	0. 30	0. 53	0. 12 400.	0. 12	0. 10	0. 500.
47	4	16	5.	700. 37	0. 30	0. 10	0. 12 400.	0. 53	0. 10	0. 500.
47	5	15	0.	700. 37	0. 10	0. 10	0. 12 400.	0. 53	0. 10	0. 500.
47	6	15	0.	700. 37	0. 10	0. 10	0. 12 100.	0. 53	0. 10	0. 500.
47	7	50	0.	950. 37	0. 37	0. 10	0. 37	0. 53	0. 10	0. 500.
47	8	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 53	0. 10	0. 500.
47	9	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 37	0. 37	0. 500.
47	10	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 37	0. 37	0. 500.
47	11	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12 100.	0. 37	0. 500.
47	12	50	0.	700. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12 100.	0. 49	0. 500.
48	1	16	20.	700. 37	0. 11 3250.	0. 53	0. 59	0. 37	0. 10	0. 500.
48	2	16	15.	700. 37	0. 30	0. 53	0. 59	0. 58	0. 10	0. 500.
48	3	16	10.	700. 37	0. 30	0. 53	0. 12 400.	0. 53	0. 10	0. 500.
48	4	16	5.	700. 37	0. 30	0. 10	0. 12 50.	0. 53	0. 10	0. 500.
48	5	15	0.	700. 37	0. 10	0. 10	0. 12 400.	0. 53	0. 10	0. 500.
48	6	15	0.	700. 37	0. 10	0. 10	0. 12 100.	0. 53	0. 10	0. 500.
48	7	50	0.	950. 37	0. 37	0. 10	0. 37	0. 53	0. 10	0. 500.
48	8	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 53	0. 10	0. 500.
48	9	50	0.	950. 37	0. 45	0. 45	0. 12 750.	0. 37	0. 37	0. 500.
48	10	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 37	0. 37	0. 500.
48	11	50	0.	950. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12 100.	0. 37	0. 500.
48	12	50	0.	700. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12 100.	0. 49	0. 500.



UPPER KE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS			
WYR MO		FCSPSN	FRCSH	SYSN H.FORK	RENT POOL	XCUT GAIN USED BY CANAL MINDKA BURLEY	TOTAL H.FORK XCUT SMSHRT
49	1	0.	0.	22011.	1775.	0.	0.
49	2	0.	0.	24568.	1801.	0.	0.
49	3	0.	0.	28475.	1850.	0.	0.
49	4	0.	4209.	31985.	2089.	0.	0.
49	5	0.	3768.	35088.	2101.	0.	0.
49	6	0.	3939.	36070.	2304.	0.	0.
49	7	190.	3699.	38192.	2332.	0.	0.
49	8	700.	3132.	39608.	2344.	0.	0.
49	9	520.	1987.	39749.	2318.	0.	0.
49	10	100.	837.	32495.	2129.	975.	13330.
49	11	0.	0.	25153.	1924.	8385.	7055.
49	12	0.	0.	21898.	1746.	20085.	765.
1510.				21571.375293.	24715.*****	0.	0.
50	1	0.	0.	22821.	1764.	0.	0.
50	2	0.	0.	25452.	1800.	0.	0.
50	3	0.	0.	28531.	1851.	0.	0.
50	4	0.	4427.	32419.	2112.	0.	0.
50	5	0.	4366.	35299.	2129.	0.	0.
50	6	0.	4188.	36348.	2338.	0.	0.
50	7	880.	4437.	37671.	2341.	0.	0.
50	8	1280.	3949.	38626.	2345.	5712.	0.
50	9	1190.	2893.	39008.	2345.	4496.	0.
50	10	260.	1168.	39330.	2203.	10063.	3535.
50	11	0.	0.	33149.	2030.	13910.	11859.
50	12	0.	0.	31925.	1849.	14748.	0.
3610.				25428.400579.	25108.*****	0.	0.
51	1	0.	0.	29743.	1876.	0.	0.
51	2	0.	0.	31169.	1911.	0.	0.
51	3	0.	0.	32543.	1964.	0.	0.
51	4	0.	4521.	34332.	2217.	0.	0.
51	5	0.	4394.	37513.	2250.	0.	0.
51	6	0.	4179.	38747.	2269.	0.	0.
51	7	710.	4234.	39337.	2335.	0.	0.
51	8	1130.	3713.	39177.	2345.	0.	0.
51	9	790.	2311.	39479.	2345.	10115.	0.
51	10	110.	856.	35855.	2218.	3780.	7559.
51	11	0.	0.	33397.	2090.	0.	1967.
51	12	0.	0.	30493.	1908.	20735.	1507.
2740.				24208.421785.	25726.*****	0.	0.
						20735.	11033.

UPPER SNAKE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS										1-M	
JACKSON LAKE				PALISADES				HEISE		HENRYS LAKE		ISLAND PARK		H. FORK		GRASSY LAKE					
WYR		MO		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		EOM					
EOM		INFLOW		OUTFLOW		EOM		OUTFLOW		EOM		OUTFLOW		EOM		OUTFLOW					
49	1	283.	5114.	248.	1872.	12184.	1845.	2083.	766.	0.	311.	0.	879.	311.	725.	131.	0.				
49	2	299.	5114.	299.	1757.	11947.	1994.	2213.	791.	0.	304.	0.	879.	304.	747.	132.	0.				
49	3	333.	5114.	333.	1652.	11710.	1889.	2095.	816.	0.	267.	0.	900.	246.	675.	135.	0.				
49	4	293.	5376.	31.	1157.	11474.	1394.	1571.	842.	0.	243.	0.	1112.	31.	452.	136.	0.				
49	5	283.	5631.	28.	1098.	11956.	615.	784.	842.	25.	233.	0.	1123.	222.	600.	137.	0.				
49	6	306.	5906.	31.	1293.	12622.	627.	823.	842.	29.	262.	0.	1323.	61.	508.	139.	0.				
49	7	709.	6552.	29.	3676.	13886.	2381.	2612.	842.	48.	502.	0.	1350.	464.	1213.	140.	0.				
49	8	3445.	8198.	1737.	9905.	13510.	10233.	11124.	842.	69.	753.	0.	1350.	731.	1830.	152.	20.				
49	9	3246.	8239.	3104.	10538.	13610.	10372.	10892.	843.	66.	451.	0.	1323.	446.	1109.	152.	27.				
49	10	1325.	7608.	1845.	5191.	12877.	5849.	6303.	843.	11.	314.	0.	1134.	461.	936.	152.	10.				
49	11	658.	6315.	1845.	3783.	12000.	4594.	4979.	786.	61.	359.	0.	996.	461.	918.	142.	17.				
49	12	387.	5152.	1488.	3102.	12134.	2926.	3331.	741.	60.	344.	0.	875.	446.	905.	130.	18.				
		11567.	74318.	11017.	45024.	149912.	44718.	48809.	9797.	369.	4343.	0.	13243.	4185.	10619.	1675.	92.				
50	1	352.	5152.	317.	2083.	12347.	1845.	2207.	768.	0.	310.	0.	866.	310.	794.	131.	0.				
50	2	269.	5152.	269.	1817.	12077.	2086.	2355.	803.	0.	272.	0.	866.	272.	722.	132.	0.				
50	3	239.	5152.	239.	1595.	11808.	1864.	2083.	832.	0.	262.	0.	882.	246.	674.	138.	0.				
50	4	355.	5354.	152.	1389.	11539.	1659.	1848.	843.	15.	278.	0.	1129.	31.	450.	140.	0.				
50	5	342.	5668.	28.	1147.	12130.	555.	768.	843.	29.	237.	0.	1144.	222.	596.	142.	0.				
50	6	339.	5977.	31.	1293.	12808.	615.	893.	843.	33.	268.	0.	1350.	62.	487.	145.	0.				
50	7	437.	6351.	29.	3402.	13472.	2707.	3195.	843.	36.	324.	0.	1350.	312.	976.	148.	0.				
50	8	1663.	7922.	30.	7467.	13104.	7788.	8568.	843.	50.	626.	0.	1350.	604.	1524.	152.	11.				
50	9	4522.	8072.	4272.	16224.	13108.	16155.	16684.	843.	77.	584.	0.	1350.	552.	1276.	152.	25.				
50	10	2385.	8470.	1874.	10053.	14000.	9086.	9443.	843.	50.	362.	0.	1208.	461.	972.	152.	16.				
50	11	810.	7327.	1845.	5058.	14000.	4986.	5371.	804.	61.	364.	0.	1074.	461.	921.	152.	7.				
50	12	469.	6243.	1488.	3894.	14000.	3848.	4196.	758.	60.	353.	0.	961.	446.	914.	130.	28.				
		12182.	76838.	10573.	55422.	154393.	53195.	57611.	9866.	411.	4240.	0.	13530.	3980.	10307.	1711.	87.				
51	1	422.	6243.	386.	2621.	14000.	2593.	2879.	794.	0.	300.	0.	951.	300.	766.	131.	0.				
51	2	397.	6243.	397.	2283.	13400.	2883.	3167.	827.	0.	272.	0.	951.	272.	729.	133.	0.				
51	3	353.	6243.	353.	2005.	12800.	2605.	2883.	843.	9.	281.	0.	986.	246.	698.	135.	0.				
51	4	400.	6612.	31.	1437.	12200.	2037.	2283.	843.	22.	282.	0.	1237.	31.	454.	137.	0.				
51	5	408.	6992.	28.	1376.	13021.	555.	760.	843.	22.	253.	0.	1268.	222.	644.	139.	0.				
51	6	511.	7473.	31.	1327.	13733.	615.	805.	843.	23.	264.	0.	1286.	246.	697.	140.	0.				
51	7	611.	8019.	29.	4283.	13574.	4410.	4794.	843.	43.	431.	0.	1350.	356.	1057.	142.	0.				
51	8	3068.	8068.	2956.	12970.	13209.	13288.	14037.	843.	57.	688.	0.	1350.	666.	1524.	152.	12.				
51	9	3198.	8171.	2993.	13036.	13408.	12772.	13070.	843.	63.	501.	0.	1350.	469.	1030.	152.	19.				
51	10	1838.	8053.	1845.	8831.	14000.	8162.	8541.	843.	26.	377.	0.	1223.	461.	970.	152.	11.				
51	11	964.	7065.	1845.	5976.	14000.	5904.	6230.	806.	61.	407.	0.	1131.	461.	941.	152.	8.				
51	12	536.	6048.	1488.	3888.	14000.	3842.	4111.	751.	60.	362.	0.	1027.	446.	905.	130.	28.				
		12706.	85230.	12381.	60033.	161344.	59667.	63561.	9922.	387.	4418.	0.	14111.	4177.	10416.	1692.	78.				

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UPPER KE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR MO CHESTR STANTY STANTY OUTFLO REXBERG

FL RIV H.FORK TT RIV TT RIV H.FORK SHELLEY		BLKFT		AMERICAN FALLS		LAKE		WALCOTT		MILNER											
FLOW		FLOW		EOM		OUTFLOW		EOM		FLOW											
WYR	MO	CHSTR	STANTY	STANTY	STANTY	TT	RIV	TT	RIV	H.FORK	REXBRG	SHELLEY	FLOW	BLKFT	INFLOW	OUTFLOW	EOM	OUTFLOW	EOM	WALCOTT	MILNER
49	1	204.	968.	305.	122.	1185.	1887.	985.	2991.	4213.	2188.	2270.	700.	2001.	1383.						
49	2	305.	1057.	303.	245.	1321.	2905.	2728.	4662.	6991.	1885.	1965.	700.	1965.	1370.						
49	3	294.	894.	268.	255.	1101.	3162.	2977.	4818.	11151.	657.	755.	700.	755.	750.						
49	4	277.	630.	218.	213.	755.	2030.	1778.	3508.	14629.	30.	218.	700.	218.	299.						
49	5	243.	754.	208.	207.	873.	1277.	1090.	2653.	17000.	282.	427.	955.	172.	332.						
49	6	291.	703.	271.	270.	880.	1414.	1286.	3264.	17000.	3264.	3480.	970.	3465.	3546.						
49	7	622.	1388.	583.	548.	1548.	3326.	2834.	4474.	17000.	4295.	4466.	970.	3887.	1919.						
49	8	1594.	2990.	1466.	1058.	3491.	11528.	10513.	12071.	17000.	11812.	12102.	970.	10655.	5636.						
49	9	955.	1678.	1115.	608.	2374.	9444.	7742.	9537.	17000.	9141.	9208.	970.	7692.	2847.						
49	10	138.	464.	536.	99.	450.	2243.	307.	2328.	11110.	7606.	7529.	952.	5709.	200.						
49	11	0.	518.	387.	94.	489.	1840.	307.	2419.	5938.	7103.	7082.	952.	5470.	200.						
49	12	94.	702.	336.	107.	825.	1472.	297.	2121.	3713.	4150.	4177.	699.	3412.	50.						
5017.		12746.	3826.	5996.	3826.	15292.	42528.	32844.	54846.	142746.	52413.	53679.	10237.	45400.	18531.						
50	1	217.	1066.	357.	174.	1344.	2276.	1371.	3483.	4823.	2284.	2355.	700.	2020.	1334.						
50	2	309.	1017.	309.	250.	1267.	2986.	3003.	4708.	7707.	1824.	2037.	700.	2037.	1562.						
50	3	285.	881.	251.	238.	1067.	3042.	3040.	4709.	11071.	1345.	1565.	700.	1565.	1590.						
50	4	284.	658.	237.	232.	825.	2182.	2093.	3959.	15000.	30.	258.	700.	258.	393.						
50	5	254.	820.	309.	308.	1098.	1517.	1511.	3195.	17000.	1195.	1371.	970.	1101.	1199.						
50	6	286.	770.	324.	323.	1094.	1707.	1701.	3668.	17000.	3668.	3810.	970.	3810.	3757.						
50	7	372.	1232.	511.	476.	1649.	4384.	4088.	6074.	17000.	5895.	6105.	970.	5719.	4153.						
50	8	894.	1852.	748.	408.	1928.	7991.	6730.	8775.	17000.	8496.	8700.	970.	7140.	2451.						
50	9	1177.	1906.	1325.	801.	2753.	16131.	14506.	16606.	17000.	16220.	16427.	970.	14998.	9951.						
50	10	525.	1062.	965.	457.	1528.	6875.	5147.	7233.	16048.	7563.	7608.	952.	5697.	200.						
50	11	73.	511.	493.	126.	673.	2147.	634.	2656.	11026.	7128.	7175.	952.	5488.	200.						
50	12	183.	1002.	419.	256.	1389.	3486.	2837.	4628.	10886.	4528.	4708.	699.	3937.	50.						
4859.		12779.	6248.	4049.	4049.	16617.	54725.	46662.	69695.	161561.	60176.	62119.	10252.	53769.	26839.						
51	1	318.	1144.	398.	213.	1456.	2831.	2064.	4091.	9000.	5848.	5949.	970.	5199.	4362.						
51	2	374.	1139.	335.	274.	1460.	3988.	4075.	5824.	11000.	3824.	3965.	970.	3965.	3499.						
51	3	343.	1007.	278.	265.	1264.	4068.	4186.	5962.	13000.	3962.	4076.	970.	4076.	4201.						
51	4	305.	711.	244.	239.	915.	2743.	2736.	4666.	15000.	2666.	2667.	970.	2667.	2704.						
51	5	281.	888.	260.	259.	1110.	1671.	1630.	3545.	17000.	1545.	1904.	970.	1904.	2013.						
51	6	289.	971.	270.	269.	1227.	1754.	1665.	3445.	17000.	3445.	3497.	970.	3497.	3545.						
51	7	593.	1407.	524.	489.	1711.	5977.	5762.	7484.	17000.	7305.	7427.	970.	6713.	4772.						
51	8	1323.	2366.	1149.	855.	2623.	13715.	12532.	14284.	17000.	14005.	14109.	970.	12866.	8324.						
51	9	716.	1186.	971.	384.	1330.	10216.	8615.	10384.	17000.	9992.	10161.	970.	8545.	3546.						
51	10	196.	570.	703.	213.	617.	4247.	2277.	4162.	12917.	7622.	7760.	952.	5887.	200.						
51	11	214.	966.	701.	469.	1501.	5135.	3664.	5717.	11465.	6630.	6732.	952.	5236.	200.						
51	12	286.	953.	425.	227.	1185.	2606.	1316.	3270.	9587.	4881.	4908.	699.	3990.	50.						

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UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW	
49	1	30.	500.	429.	0.	144.	0.	430.	
49	2	31.	516.	15.	0.	21.	0.	15.	
49	3	27.	500.	43.	0.	0.	0.	43.	
49	4	22.	507.	15.	0.	0.	0.	15.	
49	5	14.	500.	21.	0.	0.	0.	21.	
49	6	57.	542.	15.	0.	0.	0.	15.	
49	7	227.	753.	15.	0.	0.	0.	15.	
49	8	272.	900.	124.	0.	143.	0.	124.	
49	9	116.	900.	115.	0.	289.	0.	115.	
49	10	39.	900.	38.	0.	345.	0.	37.	
49	11	19.	900.	18.	0.	327.	0.	18.	
49	12	17.	900.	16.	0.	236.	0.	16.	
50	1	30.	500.	429.	0.	144.	0.	430.	
50	2	31.	516.	15.	0.	21.	0.	15.	
50	3	30.	500.	46.	0.	0.	0.	46.	
50	4	42.	527.	15.	0.	0.	0.	15.	
50	5	50.	500.	77.	0.	0.	0.	77.	
50	6	78.	563.	15.	0.	0.	0.	15.	
50	7	301.	848.	15.	0.	0.	0.	15.	
50	8	529.	600.	776.	0.	102.	0.	776.	
50	9	245.	829.	15.	0.	211.	0.	15.	
50	10	0.	812.	15.	0.	376.	0.	16.	
50	11	0.	796.	15.	0.	316.	0.	15.	
50	12	16.	796.	15.	0.	171.	0.	15.	
51	1	37.	500.	333.	0.	144.	0.	333.	
51	2	41.	526.	15.	0.	21.	0.	15.	
51	3	37.	500.	63.	0.	0.	0.	63.	
51	4	35.	520.	15.	0.	0.	0.	15.	
51	5	48.	500.	69.	0.	0.	0.	68.	
51	6	57.	542.	15.	0.	0.	0.	15.	
51	7	218.	744.	15.	0.	0.	0.	15.	
51	8	257.	900.	100.	0.	128.	0.	101.	
51	9	19.	900.	18.	0.	325.	0.	18.	
51	10	1.	884.	15.	0.	425.	0.	16.	
51	11	0.	868.	15.	0.	212.	0.	16.	
51	12	6.	858.	15.	0.	221.	0.	15.	

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE										
						JACKSON LAKE															
49	1	16	15.	700.	37	0.	0.	11 3250.	0.	53	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
49	2	16	15.	700.	37	0.	0.	30	0.	53	0.	0.	59	0.	58	0.	10	0.	10	0.	0.
49	3	16	5.	700.	37	0.	0.	30	0.	53	0.	0.	12	400.	0.	12	0.	0.	0.	50	500.
49	4	15	0.	700.	37	0.	0.	30	0.	10	0.	0.	12	400.	0.	12	0.	0.	0.	10	0.
49	5	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	400.	0.	53	0.	0.	0.	50	500.
49	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	100.	0.	53	0.	0.	10	0.	0.
49	7	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	37	0.	53	0.	0.	0.	10	0.	0.
49	8	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	53	0.	0.	10	0.	0.
49	9	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
49	10	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
49	11	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	12	750.	0.	12	100.	0.	10	0.	0.
49	12	50	0.	700.	37	0.	0.	37	0.	0.	12 2500.	0.	12	750.	0.	12	100.	0.	130.	10	0.
50	1	16	15.	700.	37	0.	0.	11 3250.	0.	53	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
50	2	16	15.	700.	37	0.	0.	30	0.	53	0.	0.	59	0.	58	0.	10	0.	10	0.	0.
50	3	16	10.	700.	37	0.	0.	30	0.	53	0.	0.	12	400.	0.	12	0.	0.	50	0.	500.
50	4	15	0.	700.	49	0.	15000.	30	0.	10	0.	0.	12	50.	0.	12	0.	0.	10	0.	0.
50	5	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	400.	0.	53	0.	0.	50	0.	500.
50	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	100.	0.	53	0.	10	0.	10	0.
50	7	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	37	0.	53	0.	10	0.	10	0.	0.
50	8	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	53	0.	10	50	0.	600.
50	9	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
50	10	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
50	11	50	0.	950.	37	0.	0.	37	0.	0.	12 3000.	0.	12	750.	0.	12	100.	0.	10	0.	0.
50	12	50	0.	700.	37	0.	0.	37	0.	0.	12 2500.	0.	12	750.	0.	12	100.	0.	130.	10	0.
51	1	14	4600.	700.	49	0.	9000.	11 3250.	0.	53	0.	0.	59	0.	37	0.	10	0.	50	0.	500.
51	2	16	20.	700.	49	0.	11000.	30	0.	53	0.	0.	59	0.	58	0.	10	0.	10	0.	0.
51	3	16	15.	700.	49	0.	13000.	30	0.	53	0.	0.	12	400.	0.	12	0.	0.	50	0.	500.
51	4	16	5.	700.	49	0.	15000.	30	0.	10	0.	0.	12	50.	0.	53	0.	0.	10	0.	0.
51	5	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	400.	0.	53	0.	0.	50	0.	500.
51	6	15	0.	700.	37	0.	0.	10	0.	10	0.	0.	12	400.	0.	53	0.	10	10	0.	0.
51	7	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	37	0.	53	0.	10	0.	10	0.	0.
51	8	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	53	0.	10	10	0.	0.
51	9	50	0.	950.	37	0.	0.	45	0.	45	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
51	10	50	0.	950.	37	0.	0.	37	0.	12 3000.	0.	0.	12	750.	0.	37	0.	0.	10	0.	0.
51	11	50	0.	950.	37	0.	0.	37	0.	0.	12 3000.	0.	12	750.	0.	12	100.	0.	10	0.	0.
51	12	50	0.	700.	37	0.	0.	37	0.	0.	12 2500.	0.	12	750.	0.	12	100.	0.	130.	10	0.





UPPER KEE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS				1-M									
JACKSON LAKE				PALISADES		HEISE		HENRYS LAKE		ISLAND PARK		H. FORK					
WYR	MO	INFLOW	EOM	OUTFLOW	INFLOW	EOM	OUTFLOW	INFLOW	EOM	OUTFLOW	INFLOW	EOM	OUTFLOW				
52	1	424.	6048.	388.	2644.	14000.	2616.	2873.	786.	0.	326.	0.	1016.	326.	826.	132.	0.
52	2	269.	6048.	269.	2022.	13400.	2622.	2881.	825.	0.	288.	0.	1016.	288.	752.	133.	0.
52	3	397.	6048.	397.	1911.	12800.	2511.	2760.	843.	20.	326.	0.	1096.	246.	700.	136.	0.
52	4	379.	6397.	31.	1485.	12200.	2085.	2295.	843.	31.	318.	0.	1168.	246.	692.	138.	0.
52	5	436.	6804.	29.	1269.	12894.	575.	738.	843.	29.	281.	0.	1219.	230.	654.	140.	0.
52	6	427.	7200.	31.	1330.	13609.	615.	814.	843.	32.	297.	0.	1350.	166.	619.	141.	0.
52	7	819.	7955.	29.	3795.	13700.	3672.	4101.	843.	71.	435.	0.	1350.	423.	1172.	142.	0.
52	8	3300.	8110.	3082.	13674.	13307.	14019.	14842.	843.	114.	1330.	0.	1350.	1308.	2877.	152.	20.
52	9	3511.	8231.	3288.	12044.	13588.	11698.	12277.	843.	121.	737.	0.	1350.	705.	1484.	152.	29.
52	10	1563.	7388.	1845.	5794.	13606.	5700.	5991.	843.	41.	467.	0.	1312.	461.	1043.	152.	12.
52	11	772.	6659.	1845.	4447.	13259.	4724.	4997.	802.	61.	417.	0.	1229.	461.	1022.	152.	8.
52	12	422.	5529.	1488.	3422.	13344.	3292.	3545.	756.	60.	404.	0.	1165.	446.	948.	130.	28.
		12719.	82868.	12721.	53836.	159706.	54130.	58114.	9913.	580.	5626.	0.	14622.	5308.	12791.	1697.	97.
53	1	241.	5529.	206.	1878.	13125.	2059.	2376.	782.	0.	334.	0.	1154.	334.	866.	131.	0.
53	2	159.	5529.	159.	1544.	12700.	1959.	2261.	813.	0.	305.	0.	1154.	305.	767.	133.	0.
53	3	304.	5529.	304.	1612.	13390.	922.	1153.	843.	4.	316.	0.	1224.	246.	741.	135.	0.
53	4	411.	5910.	31.	1367.	12593.	2164.	2367.	843.	31.	323.	0.	1301.	246.	766.	138.	0.
53	5	289.	6171.	28.	1135.	13173.	555.	744.	843.	23.	276.	0.	1350.	227.	660.	140.	0.
53	6	257.	6397.	31.	1267.	13825.	615.	807.	843.	29.	304.	0.	1350.	304.	789.	141.	0.
53	7	469.	6802.	30.	2274.	14000.	2067.	2333.	843.	42.	368.	0.	1350.	356.	954.	141.	0.
53	8	1578.	8288.	30.	4178.	13867.	4263.	4807.	843.	57.	695.	0.	1350.	673.	1439.	152.	5.
53	9	3786.	8221.	3751.	13413.	13358.	13656.	14097.	843.	76.	673.	0.	1350.	641.	1369.	152.	28.
53	10	1587.	7852.	1845.	6648.	13821.	6509.	6777.	843.	21.	362.	0.	1208.	461.	933.	152.	10.
53	11	709.	6609.	1845.	4256.	12525.	5283.	5550.	781.	61.	380.	0.	1090.	461.	941.	152.	7.
53	12	395.	5453.	1488.	3194.	11586.	4091.	4398.	727.	60.	367.	0.	991.	446.	877.	130.	27.
		10185.	78290.	9746.	42765.	157963.	44163.	47670.	9847.	404.	4703.	0.	14870.	4701.	11103.	1694.	77.
54	1	245.	5453.	210.	1789.	11505.	1845.	2108.	735.	0.	322.	0.	981.	322.	728.	131.	0.
54	2	245.	5453.	245.	1695.	12159.	1041.	1233.	760.	0.	291.	0.	981.	291.	710.	134.	0.
54	3	270.	5453.	270.	1566.	12802.	922.	1118.	789.	0.	277.	0.	1012.	246.	658.	138.	0.
54	4	390.	5812.	31.	1293.	13173.	922.	1089.	816.	0.	278.	0.	1044.	246.	682.	144.	0.
54	5	306.	6091.	28.	1128.	13746.	555.	691.	839.	0.	231.	0.	1053.	222.	620.	148.	0.
54	6	297.	6357.	31.	1256.	14000.	1002.	1186.	843.	20.	277.	0.	1268.	61.	495.	150.	0.
54	7	521.	6815.	29.	2765.	13946.	2787.	3085.	843.	29.	430.	0.	1350.	337.	988.	151.	0.
54	8	3462.	8171.	2044.	10983.	13447.	11434.	11986.	843.	60.	613.	0.	1350.	591.	1411.	152.	21.
54	9	3282.	8239.	3113.	10016.	13610.	9787.	10105.	843.	55.	533.	0.	1350.	501.	1120.	152.	19.
54	10	1919.	8201.	1845.	7442.	14000.	6976.	7273.	843.	27.	384.	0.	1230.	461.	911.	152.	12.
54	11	824.	7072.	1845.	4287.	13107.	5110.	5295.	785.	61.	399.	0.	1130.	461.	889.	152.	7.
54	12	559.	6079.	1488.	3293.	12713.	3643.	3859.	720.	60.	352.	0.	1015.	446.	892.	130.	27.
		12320.	79196.	11176.	47511.	158207.	46023.	49027.	9660.	312.	4387.	0.	13763.	4186.	10105.	1731.	86.

UPPER SNAKE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS										1-M	
		FL RIV H-FORK		TT RIV TT		RIV H-FORK		SHELLY		BLKFT		AMERICAN FALLS		LAKE		WALCOTT				MILNER	
WYR MO		CHESTR STANTY		STANTY		OUTFLO		REXBRG		FLOW		INFLOW		EOM		OUTFLO				FLOW	
52	1	368.	1152.	417.	226.	1393.	2701.	1945.	3991.	9000.	4452.	4464.	970.	3704.	2613.						
52	2	369.	1123.	326.	264.	1405.	3882.	4040.	5719.	11000.	3719.	3777.	970.	3777.	3384.						
52	3	335.	995.	281.	266.	1250.	3902.	3969.	5852.	13000.	3852.	3933.	970.	3933.	3973.						
52	4	318.	955.	264.	259.	1170.	3032.	3023.	4855.	15000.	2855.	2903.	970.	2903.	2956.						
52	5	277.	876.	232.	231.	1053.	1330.	1276.	3036.	17000.	1036.	1080.	970.	1080.	1136.						
52	6	297.	888.	243.	242.	1105.	1647.	1609.	3622.	17000.	3622.	3615.	970.	3615.	3531.						
52	7	535.	1573.	653.	618.	2116.	5614.	5220.	7214.	17000.	7036.	6986.	970.	6743.	5521.						
52	8	1657.	3866.	1472.	1079.	4540.	16804.	15721.	17665.	17000.	17386.	17440.	970.	15745.	10611.						
52	9	1116.	2056.	1179.	711.	2713.	11197.	9550.	11371.	17000.	10998.	11055.	970.	9492.	4210.						
52	10	246.	710.	605.	179.	821.	2215.	307.	2436.	11197.	7631.	7798.	952.	5915.	200.						
52	11	92.	631.	432.	125.	723.	1942.	307.	2471.	5562.	7613.	7632.	952.	5847.	200.						
52	12	129.	821.	344.	117.	908.	1476.	297.	2225.	2707.	4885.	4969.	699.	4086.	50.						
		5739.	15648.	6448.	4317.	19199.	55742.	47264.	70457.	152466.	75084.	75551.	11332.	66839.	38384.						
53	1	178.	952.	319.	136.	1045.	1624.	307.	2413.	2415.	2633.	2704.	700.	2066.	778.						
53	2	297.	1023.	273.	215.	1211.	2885.	2883.	4622.	5220.	1817.	1926.	700.	1925.	1345.						
53	3	325.	984.	250.	237.	1168.	2235.	2294.	4037.	8642.	616.	737.	700.	737.	718.						
53	4	327.	1077.	278.	273.	1345.	3477.	3522.	5363.	13975.	30.	194.	700.	194.	286.						
53	5	270.	892.	219.	218.	1072.	1616.	1585.	3077.	17000.	52.	166.	717.	149.	196.						
53	6	294.	950.	286.	285.	1125.	1650.	1544.	3123.	17000.	3123.	3251.	970.	2999.	2934.						
53	7	463.	1104.	313.	278.	1128.	3112.	2623.	4371.	17000.	4193.	4399.	970.	3984.	1809.						
53	8	685.	1594.	522.	185.	1475.	4216.	3094.	4912.	15882.	5773.	6116.	951.	4800.	0.						
53	9	1168.	2085.	1206.	714.	2674.	13472.	11792.	13590.	17000.	12106.	12281.	970.	11105.	6528.						
53	10	163.	525.	618.	166.	560.	2288.	307.	2176.	10710.	7848.	7954.	952.	5990.	200.						
53	11	15.	439.	384.	69.	402.	2021.	307.	2266.	5134.	7358.	7387.	952.	5629.	200.						
53	12	12.	575.	296.	50.	548.	1508.	297.	2080.	2215.	4807.	4879.	699.	4047.	50.						
		4197.	12201.	4964.	2826.	13754.	40104.	30555.	52030.	132194.	50356.	51994.	9980.	43625.	15044.						
54	1	197.	875.	283.	102.	973.	1573.	516.	2552.	2325.	2375.	2424.	700.	1859.	641.						
54	2	289.	999.	263.	205.	1216.	1866.	1814.	3577.	5364.	538.	621.	700.	621.	125.						
54	3	295.	924.	238.	225.	1148.	2166.	2210.	3983.	8775.	572.	722.	700.	722.	750.						
54	4	288.	943.	224.	219.	1146.	2010.	2011.	3664.	12409.	30.	221.	700.	221.	285.						
54	5	251.	857.	206.	205.	1049.	1507.	1545.	3007.	15388.	27.	93.	700.	93.	182.						
54	6	287.	687.	256.	255.	850.	1746.	1719.	3468.	17000.	1857.	1816.	970.	1546.	1555.						
54	7	561.	1202.	399.	364.	1278.	3707.	2983.	4822.	17000.	4644.	4676.	970.	4119.	1811.						
54	8	1211.	2004.	956.	556.	2114.	11106.	8909.	10597.	17000.	10306.	10295.	970.	8623.	3363.						
54	9	788.	1429.	773.	278.	1508.	8063.	5780.	7377.	17000.	6978.	7083.	970.	5854.	1292.						
54	10	299.	710.	608.	170.	771.	3521.	1542.	3450.	12325.	7495.	7534.	952.	5718.	200.						
54	11	87.	487.	405.	92.	501.	2131.	307.	2174.	6678.	7315.	7334.	952.	5578.	200.						
54	12	115.	734.	313.	77.	756.	1548.	297.	2021.	3819.	4668.	4775.	699.	3900.	50.						
		4668.	11852.	4924.	2748.	13311.	40945.	29634.	50693.	135082.	46805.	47594.	9982.	38853.	10453.						

## UPPER KE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

		RIRIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW148
52	1	30.	500.	388.	0.	144.	0.	388.	0.	388.	
52	2	37.	522.	15.	0.	21.	0.	15.	0.	15.	
52	3	33.	500.	55.	0.	0.	0.	55.	0.	55.	
52	4	34.	519.	15.	0.	0.	0.	15.	0.	15.	
52	5	23.	500.	42.	0.	0.	0.	42.	0.	42.	
52	6	45.	530.	15.	0.	0.	0.	15.	0.	15.	
52	7	301.	815.	15.	0.	0.	0.	15.	0.	15.	
52	8	571.	800.	585.	0.	116.	0.	585.	0.	585.	
52	9	43.	827.	15.	0.	270.	0.	15.	0.	15.	
52	10	1.	811.	15.	0.	382.	0.	15.	0.	15.	
52	11	18.	813.	15.	0.	300.	0.	15.	0.	15.	
52	12	23.	820.	15.	0.	277.	0.	15.	0.	15.	
53	1	24.	500.	344.	0.	144.	0.	344.	0.	344.	
53	2	33.	518.	15.	0.	21.	0.	15.	0.	15.	
53	3	37.	500.	55.	0.	0.	0.	55.	0.	55.	
53	4	58.	543.	15.	0.	0.	0.	15.	0.	15.	
53	5	36.	500.	79.	0.	0.	0.	79.	0.	79.	
53	6	52.	537.	15.	0.	0.	0.	15.	0.	15.	
53	7	168.	689.	15.	0.	0.	0.	15.	0.	15.	
53	8	172.	845.	15.	0.	69.	0.	16.	0.	16.	
53	9	125.	900.	69.	0.	232.	0.	69.	0.	69.	
53	10	35.	900.	34.	0.	397.	0.	33.	0.	33.	
53	11	25.	900.	24.	0.	305.	0.	24.	0.	24.	
53	12	18.	900.	17.	0.	280.	0.	17.	0.	17.	
54	1	23.	500.	422.	0.	144.	0.	423.	0.	423.	
54	2	29.	514.	15.	0.	21.	0.	15.	0.	15.	
54	3	31.	500.	45.	0.	0.	0.	45.	0.	45.	
54	4	32.	517.	15.	0.	0.	0.	15.	0.	15.	
54	5	30.	500.	47.	0.	0.	0.	47.	0.	47.	
54	6	51.	536.	15.	0.	0.	0.	15.	0.	15.	
54	7	138.	658.	15.	0.	0.	0.	15.	0.	15.	
54	8	136.	778.	15.	0.	133.	0.	16.	0.	16.	
54	9	91.	853.	15.	0.	250.	0.	15.	0.	15.	
54	10	32.	868.	15.	0.	379.	0.	16.	0.	16.	
54	11	16.	868.	15.	0.	300.	0.	15.	0.	15.	
54	12	14.	866.	15.	0.	292.	0.	15.	0.	15.	

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES				ISLAND PARK	HENRY'S LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	PALISADES	AMERICAN FALLS	WALCOTT				
52	1	14	4600.	700. 49	0. 9000.	11 3250.	0. 53	0.	0. 59	0.	0. 37	0. 10	0. 50.
52	2	16	20.	700. 49	0. 11000.	30 0.	0. 53	0.	0. 59	0.	0. 58	0. 10	0. 500.
52	3	16	15.	700. 49	0. 13000.	30 0.	0. 53	0.	0. 12 400.	0. 12	0. 12	0. 10	0. 500.
52	4	16	5.	700. 49	0. 15000.	30 0.	0. 10	0.	0. 12 400.	0. 53	0. 53	0. 10	0. 500.
52	5	15	0.	700. 37	0. 10	0. 10	0. 10	0.	0. 12 400.	0. 53	0. 53	0. 10	0. 500.
52	6	15	0.	700. 37	0. 10	0. 10	0. 10	0.	0. 12 100.	0. 53	0. 53	0. 10	0. 500.
52	7	50	0.	950. 37	0. 45	0. 45	0. 45	0.	0. 37 0.	0. 53	0. 53	0. 10	0. 800.
52	8	50	0.	950. 37	0. 45	0. 45	0. 45	0.	0. 12 750.	0. 53	0. 53	0. 10	0. 800.
52	9	50	0.	950. 37	0. 45	0. 45	0. 45	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 0.
52	10	50	0.	950. 37	0. 37	0. 37	0. 12 3000.	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 0.
52	11	50	0.	950. 37	0. 37	0. 37	0. 12 3000.	0.	0. 12 750.	0. 12 100.	0. 12 100.	0. 10	0. 0.
52	12	50	0.	700. 37	0. 37	0. 37	0. 12 2500.	0.	0. 12 750.	0. 12	0. 12	0. 49	0. 0.
53	1	16	15.	700. 37	0.	11 3250.	0. 53	0.	0. 59	0.	0. 37	0. 10	0. 500.
53	2	16	15.	700. 37	0.	30 0.	0. 53	0.	0. 59	0.	0. 58	0. 10	0. 500.
53	3	16	5.	700. 37	0.	11 2250.	0. 53	0.	0. 12 400.	0. 12	0. 12	0. 10	0. 500.
53	4	15	0.	700. 37	0.	30 0.	0. 10	0.	0. 12 400.	0. 53	0. 53	0. 10	0. 500.
53	5	15	0.	700. 37	0.	10 0.	0. 10	0.	0. 12 400.	0. 53	0. 53	0. 10	0. 500.
53	6	15	0.	700. 37	0.	10 0.	0. 10	0.	0. 12 400.	0. 53	0. 53	0. 10	0. 500.
53	7	50	0.	950. 37	0.	37 0.	0. 10	0.	0. 37 0.	0. 53	0. 53	0. 10	0. 500.
53	8	50	0.	950. 37	0.	45 0.	0. 45	0.	0. 12 750.	0. 53	0. 53	0. 10	0. 500.
53	9	50	0.	950. 37	0.	45 0.	0. 45	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 500.
53	10	50	0.	950. 37	0.	37 0.	0. 12 3000.	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 500.
53	11	50	0.	950. 37	0.	37 0.	0. 12 3000.	0.	0. 12 750.	0. 12 100.	0. 12 100.	0. 10	0. 500.
53	12	50	0.	700. 37	0.	37 0.	0. 12 2500.	0.	0. 12 750.	0. 12	0. 12	0. 49	0. 500.
54	1	16	15.	700. 37	0.	11 3250.	0. 53	0.	0. 59	0.	0. 37	0. 10	0. 500.
54	2	16	5.	700. 37	0.	11 2250.	0. 53	0.	0. 59	0.	0. 58	0. 10	0. 500.
54	3	16	5.	700. 37	0.	11 2250.	0. 53	0.	0. 12 400.	0. 12	0. 12	0. 10	0. 500.
54	4	15	0.	700. 37	0.	12 1500.	0. 10	0.	0. 12 400.	0. 12	0. 12	0. 10	0. 500.
54	5	15	0.	700. 37	0.	10 0.	0. 10	0.	0. 12 400.	0. 12	0. 12	0. 10	0. 500.
54	6	15	0.	700. 37	0.	10 0.	0. 10	0.	0. 12 100.	0. 12	0. 12	0. 10	0. 500.
54	7	50	0.	950. 37	0.	45 0.	0. 45	0.	0. 37 0.	0. 53	0. 53	0. 10	0. 500.
54	8	50	0.	950. 37	0.	45 0.	0. 45	0.	0. 12 750.	0. 53	0. 53	0. 10	0. 500.
54	9	50	0.	950. 37	0.	45 0.	0. 45	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 500.
54	10	50	0.	950. 37	0.	37 0.	0. 12 3000.	0.	0. 12 750.	0. 37	0. 37	0. 10	0. 500.
54	11	50	0.	950. 37	0.	37 0.	0. 12 3000.	0.	0. 12 750.	0. 12 100.	0. 12 100.	0. 10	0. 500.
54	12	50	0.	700. 37	0.	37 0.	0. 12 2500.	0.	0. 12 750.	0. 12	0. 12	0. 49	0. 500.

UPPER KE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS			
				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS			
WYR	MD	FCSPSN	FCSTH	SYSN H. FORK	RENT POOL	XCUT GAIN USED BY CANAL MINDKA BURLEY	TOTAL H. FORK XCUT SMSHRT
55	1	0.	0.	23311.	1869.	0.	0.
55	2	0.	0.	25420.	1895.	0.	0.
55	3	0.	0.	28385.	1951.	0.	0.
55	4	0.	3252.	32358.	1996.	0.	0.
55	5	0.	2629.	35743.	2027.	0.	0.
55	6	0.	2493.	37180.	2205.	0.	0.
55	7	0.	2644.	38472.	2331.	0.	0.
55	8	230.	2386.	39490.	2345.	1712.	0.
55	9	390.	1666.	39818.	2345.	5796.	0.
55	10	0.	638.	32563.	2202.	10725.	12067.
55	11	0.	0.	24239.	2002.	14885.	8624.
55	12	0.	0.	19628.	1797.	28275.	952.
620.	15708.	376608.	24965.	*****	0.	53885.	36523.
56	1	0.	0.	20084.	1806.	0.	0.
56	2	0.	0.	22659.	1846.	0.	0.
56	3	0.	0.	27543.	1942.	0.	0.
56	4	0.	5290.	32893.	2011.	0.	0.
56	5	0.	5380.	35740.	2035.	0.	0.
56	6	150.	5218.	36895.	2221.	0.	0.
56	7	1250.	4962.	38067.	2311.	0.	0.
56	8	1580.	4455.	38728.	2340.	0.	0.
56	9	1040.	2773.	39229.	2345.	8196.	52.
56	10	60.	746.	33879.	2148.	11050.	6464.
56	11	0.	0.	27331.	1963.	17355.	10625.
56	12	0.	0.	24282.	1771.	24765.	1671.
4080.	28824.	377328.	24738.	*****	0.	53170.	42846.
57	1	0.	0.	24254.	1788.	0.	0.
57	2	0.	0.	26907.	1818.	0.	0.
57	3	0.	0.	30264.	1871.	0.	0.
57	4	0.	3787.	33864.	2125.	0.	0.
57	5	0.	3469.	36866.	2159.	0.	0.
57	6	0.	3513.	37942.	2335.	0.	0.
57	7	0.	3382.	38922.	2335.	0.	0.
57	8	800.	3240.	39508.	2345.	0.	0.
57	9	810.	2353.	39459.	2345.	5390.	0.
57	10	100.	819.	34304.	2231.	585.	8867.
57	11	0.	0.	26844.	2046.	6565.	11843.
57	12	0.	0.	23440.	1894.	24830.	1228.
1710.	20563.	392575.	25292.	*****	0.	31980.	22610.
							21938.





UPPER KE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS										1-M	
FL RIV H.FORK TT RIV TT RIV H.FORK SHELLEY										AMERICAN FALLS										LAKE WALCOTT	
WYR MD CHESTR STANTY STANTY OUTFLO REXBRG FLOW										BLKFT FLOW INFLOW EOM OUTFLO INFLOW EOM OUTFLO										MILNER FLOW	
55	1	164.	918.	316.	135.	1091.	1757.	799.	2735.	3965.	2503.	2666.	700.	2165.	1240.						
55	2	305.	983.	282.	224.	1174.	2857.	2876.	4581.	6424.	2122.	2081.	700.	2081.	1783.						
55	3	327.	942.	235.	222.	1152.	3052.	3113.	4813.	9746.	1491.	1563.	700.	1563.	1581.						
55	4	308.	939.	221.	216.	1114.	2594.	2454.	4140.	13834.	51.	140.	700.	140.	245.						
55	5	267.	806.	186.	185.	935.	1337.	1152.	2636.	16443.	27.	112.	700.	112.	219.						
55	6	258.	746.	198.	197.	936.	1416.	1221.	2946.	17000.	2389.	2398.	970.	2128.	2147.						
55	7	263.	832.	310.	275.	1114.	1766.	1613.	3519.	17000.	3340.	3343.	970.	3158.	2309.						
55	8	976.	1776.	554.	246.	1556.	5437.	3829.	5679.	16555.	5856.	5904.	951.	4441.	0.						
55	9	1077.	1605.	827.	276.	1604.	8398.	6363.	8104.	17000.	7265.	7298.	970.	5783.	731.						
55	10	219.	589.	482.	68.	607.	2462.	307.	2321.	11214.	7471.	7496.	952.	5667.	200.						
55	11	0.	442.	359.	53.	368.	2137.	307.	2257.	5738.	7223.	7222.	952.	5574.	200.						
55	12	18.	630.	290.	50.	662.	1379.	297.	1951.	2725.	4766.	4853.	699.	3979.	50.						
		4182.	11208.	4260.	2147.	12313.	34590.	24329.	45680.	137644.	44503.	45075.	9962.	36791.	10705.						
56	1	157.	863.	297.	116.	1043.	1548.	497.	2433.	3562.	1517.	1582.	700.	1107.	155.						
56	2	303.	993.	287.	229.	1255.	2216.	2170.	3902.	5733.	1730.	1793.	700.	1793.	1426.						
56	3	334.	1013.	347.	334.	1366.	2395.	2441.	4153.	9334.	553.	697.	700.	697.	715.						
56	4	314.	968.	245.	240.	1198.	3827.	3874.	5710.	15000.	44.	119.	700.	119.	249.						
56	5	252.	844.	181.	180.	995.	1424.	1330.	2825.	17000.	825.	936.	970.	666.	813.						
56	6	279.	767.	296.	295.	1052.	1577.	1478.	3241.	17000.	3241.	3388.	970.	3388.	3334.						
56	7	613.	1540.	524.	489.	1825.	6478.	6159.	7771.	17000.	7593.	7618.	970.	6874.	4624.						
56	8	1496.	2663.	1347.	953.	2950.	15108.	13016.	14531.	17000.	14240.	14208.	970.	12664.	7810.						
56	9	1078.	1598.	1335.	760.	2281.	16286.	14171.	15438.	17000.	15047.	15179.	970.	13627.	8869.						
56	10	269.	654.	684.	200.	791.	2702.	488.	2330.	11040.	7663.	7685.	952.	5786.	200.						
56	11	135.	615.	452.	144.	742.	2032.	307.	2043.	5696.	6901.	6922.	952.	5256.	200.						
56	12	181.	876.	361.	123.	1059.	1992.	669.	2301.	3511.	4281.	4324.	699.	3610.	50.						
		5411.	13394.	6356.	4063.	16557.	57585.	46600.	66678.	138876.	63634.	64450.	10252.	55586.	28444.						
57	1	273.	1016.	372.	189.	1201.	2157.	1046.	3017.	3883.	2561.	2676.	700.	2240.	1497.						
57	2	351.	1122.	315.	256.	1395.	3588.	3605.	5308.	7126.	2065.	2165.	700.	2165.	1684.						
57	3	332.	991.	259.	246.	1237.	3782.	3792.	5471.	11093.	1503.	1654.	700.	1654.	1684.						
57	4	312.	665.	230.	225.	846.	3011.	3016.	4676.	14962.	807.	930.	700.	930.	1063.						
57	5	271.	857.	268.	267.	1091.	1665.	1611.	3258.	17000.	1220.	1445.	970.	1175.	1301.						
57	6	300.	838.	319.	318.	1094.	1815.	1697.	3330.	17000.	3330.	3446.	970.	3446.	3474.						
57	7	351.	1000.	384.	349.	1110.	2751.	2566.	4189.	17000.	4011.	4038.	970.	3741.	2572.						
57	8	1537.	3183.	1089.	799.	3698.	12918.	12741.	14621.	17000.	14380.	14395.	970.	13167.	8668.						
57	9	1332.	2020.	1672.	1087.	2937.	14021.	12131.	13995.	17000.	13604.	13666.	970.	12041.	7103.						
57	10	330.	616.	969.	436.	1045.	3204.	999.	2890.	11407.	7872.	7869.	952.	5946.	200.						
57	11	73.	553.	503.	128.	750.	2290.	307.	2153.	5847.	7205.	7168.	952.	5466.	200.						
57	12	125.	825.	396.	164.	1042.	1580.	304.	1956.	3097.	4511.	4578.	699.	3684.	50.						
		5587.	13687.	6776.	4464.	17447.	52782.	43815.	64864.	142415.	63070.	64031.	10252.	55655.	29496.						

UPPER SNAKE RIVER DIGITAL MODEL      1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS

		RIRIE					PUMP FLOW 148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD
55	1	19.	500.	385.	0.	144.	0.	385.	0.	385.	0.
55	2	18.	503.	15.	0.	21.	0.	15.	0.	15.	0.
55	3	21.	500.	24.	0.	0.	0.	24.	0.	24.	0.
55	4	19.	504.	15.	0.	0.	0.	15.	0.	15.	0.
55	5	15.	500.	19.	0.	0.	0.	19.	0.	19.	0.
55	6	37.	522.	15.	0.	0.	0.	15.	0.	15.	0.
55	7	107.	613.	15.	0.	0.	0.	15.	0.	15.	0.
55	8	160.	757.	15.	0.	69.	0.	16.	0.	16.	0.
55	9	99.	840.	15.	0.	255.	0.	14.	0.	14.	0.
55	10	30.	853.	15.	0.	391.	0.	15.	0.	15.	0.
55	11	18.	855.	15.	0.	341.	0.	15.	0.	15.	0.
55	12	15.	854.	15.	0.	248.	0.	14.	0.	14.	0.
56	1	20.	500.	374.	0.	144.	0.	374.	0.	374.	0.
56	2	25.	510.	15.	0.	21.	0.	15.	0.	15.	0.
56	3	27.	500.	37.	0.	0.	0.	37.	0.	37.	0.
56	4	39.	524.	15.	0.	0.	0.	15.	0.	15.	0.
56	5	22.	500.	46.	0.	0.	0.	46.	0.	46.	0.
56	6	53.	538.	15.	0.	0.	0.	15.	0.	15.	0.
56	7	223.	745.	15.	0.	0.	0.	15.	0.	15.	0.
56	8	226.	900.	70.	0.	135.	0.	70.	0.	70.	0.
56	9	49.	900.	48.	0.	309.	0.	48.	0.	48.	0.
56	10	17.	900.	16.	0.	408.	0.	16.	0.	16.	0.
56	11	19.	900.	18.	0.	322.	0.	17.	0.	17.	0.
56	12	15.	899.	15.	0.	236.	0.	15.	0.	15.	0.
57	1	20.	500.	419.	0.	144.	0.	419.	0.	419.	0.
57	2	25.	510.	15.	0.	21.	0.	15.	0.	15.	0.
57	3	25.	500.	35.	0.	0.	0.	35.	0.	35.	0.
57	4	20.	505.	15.	0.	0.	0.	15.	0.	15.	0.
57	5	48.	500.	53.	0.	0.	0.	53.	0.	53.	0.
57	6	54.	539.	15.	0.	0.	0.	15.	0.	15.	0.
57	7	132.	655.	15.	0.	0.	0.	15.	0.	15.	0.
57	8	465.	900.	219.	0.	22.	0.	220.	0.	220.	0.
57	9	130.	900.	129.	0.	270.	0.	129.	0.	129.	0.
57	10	0.	883.	15.	0.	434.	0.	15.	0.	15.	0.
57	11	0.	867.	15.	0.	305.	0.	15.	0.	15.	0.
57	12	17.	868.	15.	0.	251.	0.	14.	0.	14.	0.

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	JACKSON LAKE	ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
55	1	16	15.	700. 37	0.	0.	59	0.	0.	500.
55	2	16	15.	700. 37	0.	0.	59	0.	0.	0.
55	3	16	10.	700. 37	0.	0.	12 400.	0.	0.	500.
55	4	15	0.	700. 37	0.	0.	12 400.	0.	0.	0.
55	5	15	0.	700. 37	0.	0.	12 400.	0.	0.	500.
55	6	15	0.	700. 37	0.	0.	12 100.	0.	0.	0.
55	7	50	0.	950. 37	0.	0.	12 100.	0.	0.	0.
55	8	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
55	9	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
55	10	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
55	11	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
55	12	50	0.	700. 37	0.	0.	12 750.	0.	0.	0.
56	1	16	5.	700. 37	0.	0.	59	0.	0.	500.
56	2	16	15.	700. 37	0.	0.	59	0.	0.	0.
56	3	16	5.	700. 37	0.	0.	12 400.	0.	0.	500.
56	4	15	0.	700. 49	0.	0.	12 400.	0.	0.	500.
56	5	15	0.	700. 37	0.	0.	12 100.	0.	0.	0.
56	6	15	0.	700. 37	0.	0.	12 100.	0.	0.	0.
56	7	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
56	8	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
56	9	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
56	10	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
56	11	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
56	12	50	0.	700. 37	0.	0.	12 750.	0.	0.	0.
57	1	16	15.	700. 37	0.	0.	59	0.	0.	500.
57	2	16	15.	700. 37	0.	0.	59	0.	0.	0.
57	3	16	10.	700. 37	0.	0.	12 400.	0.	0.	500.
57	4	16	5.	700. 37	0.	0.	12 50.	0.	0.	0.
57	5	15	0.	700. 37	0.	0.	12 400.	0.	0.	500.
57	6	15	0.	700. 37	0.	0.	12 100.	0.	0.	0.
57	7	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
57	8	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
57	9	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
57	10	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
57	11	50	0.	950. 37	0.	0.	12 750.	0.	0.	0.
57	12	50	0.	700. 37	0.	0.	12 750.	0.	0.	0.

UPPER SNAKE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS			
WYR MO		FCSPSN	FRCSTH	SYSCON SNAKE H.FORK	RENT POOL	XCUT GAIN USED BY CANAL MINDKA BURLEY	TOTAL H.FORK XCUT SMSHRT
58	1	0.	0.	23491.	1909.	0.	0.
58	2	0.	0.	25766.	1939.	0.	0.
58	3	0.	0.	29023.	2013.	0.	0.
58	4	0.	3786.	33152.	2047.	0.	0.
58	5	0.	3437.	36298.	2086.	0.	0.
58	6	0.	3459.	37182.	2319.	0.	0.
58	7	0.	3023.	38454.	2334.	0.	0.
58	8	420.	2814.	39888.	2345.	0.	0.
58	9	250.	1364.	39410.	2332.	0.	0.
58	10	0.	361.	29647.	1869.	0.	0.
58	11	0.	0.	21495.	1775.	0.	0.
58	12	0.	0.	18522.	1604.	0.	0.
		670.	18244.	372326.	24573.	18.	0.
					*****	53365.	23956.
59	1	0.	0.	18237.	1618.	0.	0.
59	2	0.	0.	21818.	1771.	0.	0.
59	3	0.	0.	25741.	1806.	0.	0.
59	4	0.	3704.	29609.	2052.	0.	0.
59	5	0.	3348.	33396.	2078.	0.	0.
59	6	0.	3350.	35243.	2247.	0.	0.
59	7	0.	3120.	36945.	2275.	0.	0.
59	8	420.	2796.	35943.	2299.	0.	0.
59	9	710.	2210.	38528.	2311.	0.	0.
59	10	70.	761.	30727.	1986.	0.	0.
59	11	0.	0.	22183.	1847.	0.	0.
59	12	0.	0.	19508.	1774.	0.	0.
		1200.	19289.	347878.	24064.	0.	0.
					*****	25463.	19013.
60	1	0.	0.	21893.	1815.	0.	0.
60	2	0.	0.	24204.	1855.	0.	0.
60	3	0.	0.	27732.	1949.	0.	0.
60	4	0.	2995.	31449.	2249.	0.	0.
60	5	0.	2549.	35232.	2301.	0.	0.
60	6	0.	2473.	37088.	2323.	0.	0.
60	7	0.	2318.	37704.	2328.	0.	0.
60	8	0.	1959.	35891.	2318.	0.	0.
60	9	0.	1071.	33906.	2185.	0.	0.
60	10	0.	134.	23200.	1554.	0.	0.
60	11	0.	0.	14782.	1139.	0.	0.
60	12	0.	0.	9781.	1011.	0.	0.
		0.	13499.	332861.	23026.	147.	0.
					*****	45175.	43257.

UPPER KE RIVER DIGITAL MODEL														1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS														1-M	
JACKSON LAKE				PALISADES				HEISE		HENRYS LAKE		ISLAND PARK		H. FORK ASHTON		GRASSY LAKE													
WYR	MO	INFLOW	DOM OUTFLOW	INFLOW	DOM	OUTFLOW	FLOW	DOM	OUTFLOW	INFLOW	SEEPAGE	DOM	OUTFLOW	INFLOW	OUTFLOW	DOM	OUTFLOW												
58	1	291.	5476.	256.	2043.	14000.	2015.	769.	0.	321.	0.	1009.	321.	774.	132.	0.	0.												
58	2	219.	5476.	219.	1710.	13400.	2310.	798.	0.	280.	0.	1009.	280.	683.	133.	0.	0.												
58	3	326.	5476.	326.	1766.	12800.	2366.	828.	0.	288.	0.	1051.	246.	703.	135.	0.	0.												
58	4	279.	5724.	31.	1255.	12200.	1855.	843.	3.	264.	0.	1069.	246.	686.	136.	0.	0.												
58	5	364.	6060.	28.	1093.	12738.	555.	843.	18.	259.	0.	1106.	222.	631.	138.	0.	0.												
58	6	335.	6365.	31.	1149.	13272.	615.	843.	27.	292.	0.	1336.	61.	531.	140.	0.	0.												
58	7	399.	6699.	30.	1989.	14000.	1229.	843.	59.	379.	0.	1350.	354.	903.	141.	0.	0.												
58	8	2832.	8282.	1187.	10300.	13706.	10546.	843.	87.	695.	0.	1350.	673.	1574.	152.	14.	14.												
58	9	1934.	8306.	1808.	8349.	13813.	8176.	843.	74.	465.	0.	1337.	446.	937.	152.	18.	18.												
58	10	660.	7011.	1845.	4645.	11607.	6778.	843.	24.	333.	0.	874.	756.	1159.	152.	7.	7.												
58	11	430.	5492.	1845.	3591.	10376.	4762.	792.	61.	375.	0.	908.	309.	685.	76.	81.	81.												
58	12	303.	4246.	1488.	3021.	10628.	2530.	739.	60.	371.	0.	814.	446.	891.	50.	30.	30.												
		8372.	74613.	9093.	40911.	152739.	43737.	47979.	9827.	413.	4322.	0.	13211.	4361.	10158.	1535.	149.												
59	1	209.	4391.	31.	1511.	10249.	2067.	2346.	760.	0.	284.	0.	805.	284.	648.	53.	0.												
59	2	308.	4669.	30.	1434.	10642.	1041.	1308.	783.	0.	247.	0.	929.	124.	471.	59.	0.												
59	3	242.	4669.	242.	1556.	11275.	922.	1159.	809.	0.	250.	0.	933.	246.	630.	64.	0.												
59	4	247.	4885.	31.	1180.	11533.	922.	1173.	837.	0.	245.	0.	1147.	31.	430.	68.	0.												
59	5	326.	5183.	28.	1017.	11717.	833.	1071.	843.	23.	237.	0.	1162.	222.	584.	73.	0.												
59	6	296.	5449.	31.	1157.	12259.	615.	848.	843.	16.	226.	0.	1326.	61.	478.	77.	0.												
59	7	412.	5798.	30.	2350.	13983.	595.	927.	843.	41.	313.	0.	1350.	278.	852.	82.	0.												
59	8	1561.	7268.	30.	4756.	13706.	4985.	5632.	843.	41.	503.	0.	1350.	481.	1242.	106.	0.												
59	9	3874.	8192.	2850.	11909.	13468.	12081.	12717.	843.	66.	464.	0.	1336.	446.	985.	132.	0.												
59	10	1169.	7406.	1845.	5804.	12719.	6478.	6886.	843.	2.	356.	0.	1004.	648.	1058.	140.	0.												
59	11	519.	5975.	1845.	4105.	11243.	5516.	5797.	812.	61.	417.	0.	911.	476.	906.	124.	21.												
59	12	402.	4827.	1488.	3177.	11430.	2951.	3273.	789.	60.	439.	0.	885.	446.	994.	100.	30.												
		9565.	68713.	8478.	39955.	144224.	39006.	43137.	9848.	310.	3981.	0.	13137.	3743.	9278.	1079.	51.												
60	1	384.	4793.	384.	2247.	11807.	1845.	2124.	834.	0.	370.	0.	875.	370.	882.	106.	0.												
60	2	228.	4793.	228.	1646.	12114.	1339.	1584.	843.	26.	320.	0.	901.	294.	710.	111.	0.												
60	3	213.	4793.	213.	1477.	12669.	922.	1152.	843.	29.	326.	0.	991.	246.	661.	115.	0.												
60	4	297.	5059.	31.	1221.	12967.	922.	1126.	843.	43.	326.	0.	1286.	31.	477.	120.	0.												
60	5	266.	5296.	29.	1103.	13495.	575.	778.	843.	30.	277.	0.	1333.	230.	645.	125.	0.												
60	6	274.	5540.	31.	1271.	14000.	766.	1039.	843.	35.	288.	0.	1350.	271.	783.	130.	0.												
60	7	510.	5986.	30.	2835.	14000.	2803.	3175.	843.	55.	436.	0.	1350.	424.	1064.	135.	0.												
60	8	1735.	6821.	841.	5737.	14000.	5688.	6160.	843.	42.	456.	0.	1323.	461.	1200.	152.	15.												
60	9	2619.	8470.	869.	6964.	14000.	6897.	7155.	843.	24.	344.	0.	1190.	446.	958.	152.	21.												
60	10	739.	7253.	1845.	4623.	10932.	7619.	7856.	833.	0.	317.	0.	613.	859.	1215.	109.	48.												
60	11	420.	5724.	1845.	3650.	8155.	6373.	6731.	772.	61.	392.	0.	367.	616.	1099.	0.	112.												
60	12	514.	4689.	1488.	2859.	4193.	6795.	7036.	715.	60.	366.	0.	296.	428.	839.	0.	3.												
		8199.	69216.	7832.	35632.	142333.	42544.	45916.	9897.	405.	4228.	0.	11877.	4677.	10534.	1252.	199.												





UPPER KE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

		RIRIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW			
58	1	24.	500.	392.	0.	144.	0.	392.			
58	2	29.	514.	15.	0.	21.	0.	15.			
58	3	31.	500.	45.	0.	0.	0.	45.			
58	4	32.	517.	15.	0.	0.	0.	15.			
58	5	50.	500.	67.	0.	0.	0.	67.			
58	6	61.	546.	15.	0.	0.	0.	15.			
58	7	224.	754.	15.	0.	0.	0.	15.			
58	8	311.	900.	164.	0.	118.	0.	164.			
58	9	71.	900.	70.	0.	286.	0.	70.			
58	10	21.	900.	20.	0.	391.	0.	19.			
58	11	22.	900.	21.	0.	270.	0.	20.			
58	12	18.	900.	17.	0.	191.	0.	18.			
59	1	22.	500.	421.	0.	144.	0.	422.			
59	2	28.	513.	15.	0.	21.	0.	15.			
59	3	32.	500.	45.	0.	0.	0.	45.			
59	4	38.	523.	15.	0.	0.	0.	15.			
59	5	31.	500.	54.	0.	0.	0.	54.			
59	6	51.	536.	15.	0.	0.	0.	15.			
59	7	147.	667.	15.	0.	0.	0.	15.			
59	8	177.	828.	15.	0.	132.	0.	15.			
59	9	110.	900.	37.	0.	312.	0.	36.			
59	10	37.	900.	36.	0.	359.	0.	36.			
59	11	17.	900.	16.	0.	302.	0.	16.			
59	12	19.	900.	18.	0.	265.	0.	18.			
60	1	25.	500.	424.	0.	144.	0.	425.			
60	2	25.	510.	15.	0.	21.	0.	15.			
60	3	22.	500.	32.	0.	0.	0.	32.			
60	4	19.	504.	15.	0.	0.	0.	15.			
60	5	20.	500.	24.	0.	0.	0.	24.			
60	6	64.	549.	15.	0.	0.	0.	15.			
60	7	185.	718.	15.	0.	0.	0.	15.			
60	8	156.	858.	15.	0.	143.	0.	15.			
60	9	101.	900.	58.	0.	309.	0.	58.			
60	10	30.	900.	29.	0.	397.	0.	28.			
60	11	20.	900.	19.	0.	305.	0.	19.			
60	12	15.	899.	15.	0.	292.	0.	15.			

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE					
58	1	16	15.	700. 37	0.	0. 11 3250.	0. 53	0.	0. 37	0.	0. 500.
58	2	16	15.	700. 37	0.	0. 30	0. 53	0.	0. 58	0.	0. 500.
58	3	16	10.	700. 37	0.	0. 30	0. 53	0. 12 400.	0. 12	0.	0. 500.
58	4	15	0.	700. 37	0.	0. 30	0. 10	0. 12 400.	0. 12	0.	0. 500.
58	5	15	0.	700. 37	0.	0. 10	0. 10	0. 12 400.	0. 53	0.	0. 500.
58	6	15	0.	700. 37	0.	0. 10	0. 10	0. 12 100.	0. 53	0.	0. 500.
58	7	50	0.	950. 37	0.	0. 37	0. 10	0. 12 750.	0. 53	0.	0. 500.
58	8	50	0.	950. 37	0.	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 500.
58	9	50	0.	950. 37	0.	0. 45	0. 45	0. 12 750.	0. 37	0.	0. 500.
58	10	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 12 750.	0. 37	0.	0. 500.
58	11	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 37	0. 12 100.	0.	0. 500.
58	12	50	0.	700. 37	0.	0. 37	0. 12 2500.	0. 12 750.	0. 12	50.	0. 500.
59	1	16	5.	700. 37	0.	0. 11 3250.	0. 10	0.	0. 37	0.	0. 500.
59	2	16	5.	700. 37	0.	0. 11 2250.	0. 10	0.	0. 58	0.	0. 500.
59	3	16	5.	700. 37	0.	0. 11 2250.	0. 59	0. 12 400.	0. 12	0.	0. 500.
59	4	15	0.	700. 37	0.	0. 12 1500.	0. 10	0. 12 50.	0. 12	0.	0. 500.
59	5	15	0.	700. 37	0.	0. 11 2750.	0. 10	0. 12 400.	0. 12	0.	0. 500.
59	6	15	0.	700. 37	0.	0. 10	0. 10	0. 12 100.	0. 53	0.	0. 500.
59	7	50	0.	950. 37	0.	0. 37	0. 10	0. 12 750.	0. 53	0.	0. 500.
59	8	50	0.	950. 37	0.	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 500.
59	9	50	0.	950. 37	0.	0. 45	0. 45	0. 12 750.	0. 37	0.	0. 500.
59	10	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 12 750.	0. 37	0.	0. 500.
59	11	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 12 750.	0. 12 100.	0.	0. 500.
59	12	50	0.	700. 37	0.	0. 37	0. 12 2500.	0. 12 750.	0. 12	50.	0. 500.
60	1	16	5.	700. 37	0.	0. 11 3250.	0. 59	0.	0. 37	0.	0. 500.
60	2	16	15.	700. 37	0.	0. 11 2750.	0. 59	0.	0. 58	0.	0. 500.
60	3	16	5.	700. 37	0.	0. 11 2250.	0. 59	0. 12 400.	0. 53	0.	0. 500.
60	4	15	0.	700. 37	0.	0. 12 1500.	0. 10	0. 12 50.	0. 53	0.	0. 500.
60	5	15	0.	700. 37	0.	0. 10	0. 10	0. 12 400.	0. 53	0.	0. 500.
60	6	15	0.	700. 37	0.	0. 10	0. 10	0. 12 400.	0. 53	0.	0. 500.
60	7	50	0.	950. 37	0.	0. 37	0. 10	0. 12 750.	0. 53	0.	0. 500.
60	8	50	0.	950. 37	0.	0. 37	0. 50	0. 8470. 12 750.	0. 53	0.	0. 500.
60	9	50	0.	950. 37	0.	0. 37	0. 50	0. 8470. 12 750.	0. 37	0.	0. 500.
60	10	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 37	0. 37	0.	0. 500.
60	11	50	0.	950. 37	0.	0. 37	0. 12 3000.	0. 37	0. 12 100.	0.	0. 500.
60	12	50	0.	700. 37	0.	0. 37	0. 12 2500.	0. 37	0. 12	50.	0. 500.

WYR	MD	FCSPSN	FRCSH	SNAKE	SYSN H.FORK	SYSN	RENT	POOL	XCUT CANAL	GAIN MINDKA	USED BY BURLEY	TOTAL H.FORK XCUT SMSHRT
61	1	0.	0.	10172.	1028.	0.	0.	0.	0.	0.	0.	0.
61	2	0.	0.	13797.	1183.	0.	0.	0.	0.	0.	0.	0.
61	3	0.	0.	17239.	1405.	0.	0.	0.	0.	0.	0.	0.
61	4	0.	3557.	20303.	1610.	0.	0.	0.	0.	0.	0.	0.
61	5	0.	2862.	23628.	1807.	0.	0.	0.	0.	0.	0.	0.
61	6	0.	2401.	27217.	1978.	0.	0.	0.	0.	0.	0.	0.
61	7	0.	2403.	28525.	2201.	200692.	0.	12220.	6580.	0.	0.	0.
61	8	0.	2136.	26950.	2210.	200074.	0.	0.	0.	3531.	0.	0.
61	9	100.	1374.	24508.	2103.	199275.	0.	0.	0.	14709.	0.	0.
61	10	0.	358.	14574.	843.	143166.	81.	0.	0.	7925.	-54781.	0.
61	11	0.	0.	8196.	116.	0.	40.	8190.	4410.	0.	-2190.	0.
61	12	0.	0.	8089.	116.	0.	0.	0.	0.	0.	0.	0.
100.	15091.	223199.	16600.	743207.	121.	20410.	10990.	26165.	-56971.	0.	0.	0.
62	1	0.	0.	9845.	153.	0.	0.	0.	0.	0.	0.	0.
62	2	0.	0.	13466.	311.	0.	0.	0.	0.	0.	0.	0.
62	3	0.	0.	17253.	528.	0.	0.	0.	0.	0.	0.	0.
62	4	0.	4265.	20523.	748.	0.	0.	0.	0.	0.	0.	0.
62	5	0.	4245.	25755.	966.	0.	0.	0.	0.	0.	0.	0.
62	6	0.	4226.	29359.	1156.	0.	0.	0.	0.	0.	0.	0.
62	7	390.	3890.	34709.	1527.	0.	0.	0.	0.	0.	0.	0.
62	8	790.	3224.	39419.	1768.	0.	0.	0.	0.	0.	0.	0.
62	9	650.	2099.	39618.	1869.	344402.	0.	0.	1225.	0.	0.	0.
62	10	110.	783.	33309.	1764.	344402.	0.	0.	0.	8257.	0.	0.
62	11	0.	0.	25808.	1609.	344270.	0.	4030.	2170.	12035.	0.	0.
62	12	0.	0.	20941.	1430.	339246.	0.	22490.	12110.	1405.	0.	0.
1940.	22732.	310005.	13829.	*****	0.	26520.	15505.	21696.	0.	0.	0.	0.
63	1	0.	0.	20651.	1447.	0.	0.	0.	0.	0.	0.	0.
63	2	0.	0.	22904.	1471.	0.	0.	0.	0.	0.	0.	0.
63	3	0.	0.	26514.	1523.	0.	0.	0.	0.	0.	0.	0.
63	4	0.	3079.	30040.	1755.	0.	0.	0.	0.	0.	0.	0.
63	5	0.	2762.	34972.	1777.	0.	0.	0.	0.	0.	0.	0.
63	6	0.	2706.	37425.	1991.	0.	0.	0.	0.	0.	0.	0.
63	7	0.	2275.	37815.	2072.	0.	0.	0.	0.	0.	0.	0.
63	8	80.	2377.	40060.	2149.	0.	0.	0.	0.	0.	0.	0.
63	9	390.	1657.	39822.	2221.	95365.	0.	0.	0.	0.	0.	0.
63	10	10.	571.	30557.	1804.	380819.	32.	0.	0.	19030.	0.	0.
63	11	0.	0.	22193.	1518.	378766.	0.	9620.	5180.	8788.	0.	0.
63	12	0.	0.	18864.	1821.	378434.	0.	12489.	13055.	0.	0.	0.
480.	15427.	361818.	21548.	*****	32.	22109.	18235.	27819.	0.	0.	0.	0.





		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	DIVRTD	PUMP	FLOW148
61	1	19.	500.	418.	0.	144.	0.	418.	
61	2	11.	496.	15.	0.	21.	0.	15.	
61	3	18.	499.	15.	0.	0.	0.	15.	
61	4	15.	498.	15.	0.	0.	0.	15.	
61	5	27.	511.	14.	0.	0.	0.	14.	
61	6	43.	539.	15.	0.	0.	0.	15.	
61	7	85.	609.	15.	0.	0.	0.	15.	
61	8	140.	732.	15.	0.	155.	0.	15.	
61	9	96.	813.	15.	0.	273.	0.	15.	
61	10	28.	824.	15.	0.	350.	0.	16.	
61	11	19.	826.	15.	0.	220.	0.	16.	
61	12	19.	830.	15.	0.	132.	0.	15.	
62	1	25.	500.	354.	0.	144.	0.	354.	
62	2	24.	509.	15.	0.	21.	0.	15.	
62	3	17.	500.	26.	0.	0.	0.	26.	
62	4	11.	496.	15.	0.	0.	0.	15.	
62	5	106.	588.	14.	0.	0.	0.	14.	
62	6	69.	641.	15.	0.	0.	0.	15.	
62	7	250.	876.	15.	0.	0.	0.	15.	
62	8	287.	800.	362.	0.	128.	0.	363.	
62	9	115.	899.	15.	0.	318.	0.	15.	
62	10	36.	900.	34.	0.	451.	0.	34.	
62	11	18.	900.	17.	0.	363.	0.	16.	
62	12	14.	898.	15.	0.	268.	0.	15.	
63	1	18.	500.	416.	0.	144.	0.	416.	
63	2	21.	506.	15.	0.	21.	0.	15.	
63	3	19.	500.	25.	0.	0.	0.	25.	
63	4	16.	501.	15.	0.	0.	0.	15.	
63	5	86.	500.	87.	0.	0.	0.	87.	
63	6	71.	556.	15.	0.	0.	0.	15.	
63	7	95.	635.	15.	0.	0.	0.	15.	
63	8	143.	762.	15.	0.	57.	0.	15.	
63	9	98.	844.	15.	0.	227.	0.	15.	
63	10	29.	856.	15.	0.	477.	0.	15.	
63	11	8.	848.	15.	0.	343.	0.	16.	
63	12	14.	846.	15.	0.	268.	0.	15.	



WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES		ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	JACKSON LAKE				
61	1	50	0.	700. 37	0.	0. 37	0.	0. 59	0.	0. 10	0. 50
61	2	16	5. 700. 10	0.	0. 11 2250.	0. 59	0.	0. 58	5.	0. 10	0. 0.
61	3	50	0. 700. 37	0.	0. 10	0.	0.	0. 12 50.	0. 12	0. 10	0. 0.
61	4	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 50.	0. 12	0. 10	0. 0.
61	5	15	0. 700. 37	0.	0. 11 2750.	0. 10	0.	0. 12 50.	0. 12	0. 10	0. 0.
61	6	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 100.	0. 12	0. 10	0. 0.
61	7	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 100.	0. 53	0. 10	0. 0.
61	8	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 750.	0. 53	0. 10	0. 0.
61	9	50	0. 950. 37	0.	0. 45	0.	0.	0. 12 750.	0. 37	0. 10	0. 0.
61	10	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 4000.	0. 37	0. 10	0. 0.
61	11	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 4000.	0. 37	0. 10	0. 0.
61	12	50	0. 700. 37	0.	0. 37	0.	0.	0. 12 3500.	0. 37	0. 10	0. 0.
62	1	50	0. 700. 37	0.	0. 37	0.	0.	0. 59	0.	0. 10	0. 500.
62	2	16	5. 700. 10	0.	0. 11 2250.	0. 10	0.	0. 58	5.	0. 10	0. 0.
62	3	50	0. 700. 37	0.	0. 10	0.	0.	0. 12 50.	0. 12	0. 10	0. 500.
62	4	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 50.	0. 12	0. 10	0. 0.
62	5	15	0. 700. 37	0.	0. 11 2750.	0. 10	0.	0. 12 50.	0. 12	0. 10	0. 0.
62	6	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 100.	0. 12	0. 10	0. 0.
62	7	50	0. 950. 37	0.	0. 45	0.	0.	0. 12 100.	0. 12	0. 10	0. 0.
62	8	50	0. 950. 37	0.	0. 45	0.	0.	0. 37	0.	0. 10	0. 800.
62	9	50	0. 950. 37	0.	0. 45	0.	0.	0. 12 750.	0. 37	0. 10	0. 0.
62	10	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 750.	0. 37	0. 10	0. 0.
62	11	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 750.	0. 12 100.	0. 10	0. 0.
62	12	50	0. 700. 37	0.	0. 37	0.	0.	0. 12 750.	0. 37	0. 12 50.	0. 0.
63	1	16	15. 700. 37	0.	0. 11 3250.	0. 53	0.	0. 59	0.	0. 10	0. 500.
63	2	16	15. 700. 37	0.	0. 30	0.	0.	0. 59	0.	0. 10	0. 0.
63	3	16	5. 700. 37	0.	0. 11 2250.	0. 53	0.	0. 12 400.	0. 12	0. 10	0. 500.
63	4	15	0. 700. 37	0.	0. 12 1500.	0. 10	0.	0. 12 50.	0. 12	0. 10	0. 0.
63	5	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 400.	0. 12	0. 10	0. 500.
63	6	15	0. 700. 37	0.	0. 10	0.	0.	0. 12 100.	0. 12	0. 10	0. 0.
63	7	50	0. 950. 37	0.	0. 37	0.	0.	0. 37	0.	0. 10	0. 0.
63	8	50	0. 950. 37	0.	0. 45	0.	0.	0. 12 750.	0. 10	0. 10	0. 0.
63	9	50	0. 950. 37	0.	0. 45	0.	0.	0. 12 750.	0. 37	0. 10	0. 0.
63	10	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 750.	0. 37	0. 10	0. 0.
63	11	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 3000.	0. 12 100.	0. 10	0. 0.
63	12	50	0. 950. 37	0.	0. 37	0.	0.	0. 12 3000.	0. 12	0. 37	0. 0.
63	12	50	0. 700. 37	0.	0. 37	0.	0.	0. 37	0. 37	0. 12 50.	0. 0.

UPPER SNAKE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS						
WYR	MO	FCSPSN	FRCSTH	SYSYCON SNAKE H.FORK	SYSYCON H.FORK	RENT POOL	XCUT CANAL	GAIN USED BY MINDKA BURLEY	TOTAL XCUT	H.FORK SMSHRT
64	1	0.	0.	16704.	1828.	0.	0.	0.	0.	0.
64	2	0.	0.	20630.	1874.	0.	0.	0.	0.	0.
64	3	0.	0.	24273.	1916.	0.	0.	0.	0.	0.
64	4	0.	3442.	28104.	1960.	0.	0.	0.	0.	0.
64	5	0.	3402.	31359.	1974.	0.	0.	0.	0.	0.
64	6	0.	2921.	34781.	2167.	0.	0.	0.	0.	0.
64	7	0.	2907.	36613.	2288.	0.	0.	0.	0.	0.
64	8	260.	2607.	38907.	2317.	0.	0.	0.	0.	0.
64	9	480.	1812.	39609.	2345.	77611.	0.	0.	0.	0.
64	10	10.	573.	34663.	2249.	394170.	0.	0.	4586.	0.
64	11	0.	0.	26671.	2081.	392380.	0.	520.	13023.	0.
64	12	0.	0.	22023.	1913.	387277.	0.	19370.	2135.	0.
750.				17664.	354337.	24912.	*****	0.	19890.	19744.
65	1	0.	0.	20684.	1930.	0.	0.	0.	0.	0.
65	2	0.	0.	23443.	1972.	0.	0.	0.	0.	0.
65	3	0.	0.	28880.	2079.	0.	0.	0.	0.	0.
65	4	0.	5045.	33902.	2180.	0.	0.	0.	0.	0.
65	5	0.	4989.	36783.	2212.	0.	0.	0.	0.	0.
65	6	50.	4921.	37306.	2343.	0.	0.	0.	0.	0.
65	7	800.	4325.	37749.	2345.	0.	0.	0.	0.	0.
65	8	1310.	4000.	38998.	2345.	0.	0.	0.	53.	-19.
65	9	1090.	2755.	39179.	2345.	77611.	0.	10745.	0.	0.
65	10	190.	1033.	38038.	2327.	394145.	0.	6580.	2142.	0.
65	11	0.	0.	33314.	2218.	394145.	0.	18144.	4343.	0.
65	12	0.	0.	31805.	2107.	391654.	0.	15072.	1264.	0.
3440.				27068.	400081.	26403.	*****	0.	33216.	7802.
66	1	0.	0.	29848.	2123.	0.	0.	0.	0.	0.
66	2	0.	0.	31405.	2161.	0.	0.	0.	0.	0.
66	3	0.	0.	33219.	2278.	0.	0.	0.	0.	0.
66	4	0.	3429.	34401.	2330.	0.	0.	0.	0.	0.
66	5	0.	3310.	37259.	2331.	0.	0.	0.	0.	0.
66	6	0.	2887.	38340.	2332.	372843.	0.	0.	0.	0.
66	7	0.	2496.	39310.	2333.	372843.	0.	0.	0.	0.
66	8	0.	2157.	39770.	2345.	372723.	0.	0.	0.	0.
66	9	250.	1150.	37515.	2233.	371966.	0.	0.	12250.	0.
66	10	0.	297.	27493.	1728.	369570.	81.	10660.	924.	0.
66	11	0.	0.	18759.	1615.	354404.	34.	7475.	22228.	0.
66	12	0.	0.	14803.	1904.	319747.	0.	22824.	6517.	0.
250.				15726.	382121.	25712.	*****	116.	40959.	29670.

UPPER KE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS										1-M
WYR MO		JACKSON LAKE		PALISADES		HEISE		HENRYS LAKE		ISLAND PARK		H. FORK ASHTON		GRASSY LAKE						
		EOM		EOM		FLOW		EOM		EOM		EOM		EOM						
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		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM		EOM						
		INFLOW		OUTFLOW		INFLOW		OUTFLOW		INFLOW		OUTFLOW		OUTFLOW						
		EOM		EOM		EOM		EOM		EOM		EOM								

UPPER SNAKE RIVER DIGITAL MODEL										1928-78 W/D SALMON FALLS, INCLUDES 1939 RIGHTS				1-M	
										AMERICAN FALLS		LAKE WALKCOTT		MILNER	
										INFLOW	OUTFLOW	INFLOW	OUTFLOW	FLOW	FLOW
WYR	MO	CHESTR	STANTY	STANTY	TT	RIV	TT	RIV	H.FORK	SHALLY	BLKFT	FLOW	INFLOW	OUTFLOW	FLOW
64	1	164.	712.	301.	116.	862.	1729.	307.	2022.	1712.	2517.	2599.	700.	1996.	146.
64	2	227.	939.	296.	235.	1214.	1909.	1955.	3695.	4857.	550.	655.	700.	655.	173.
64	3	258.	799.	214.	201.	966.	1915.	1902.	3565.	7954.	468.	634.	700.	634.	770.
64	4	257.	831.	204.	199.	986.	1757.	1651.	3312.	11235.	30.	139.	700.	139.	264.
64	5	237.	784.	197.	196.	926.	1486.	1445.	2905.	14112.	28.	154.	700.	154.	261.
64	6	256.	678.	215.	214.	829.	1414.	1364.	2883.	16965.	30.	215.	700.	215.	302.
64	7	329.	880.	371.	336.	1171.	1650.	1510.	3750.	17000.	3540.	3495.	970.	3132.	2006.
64	8	1111.	2382.	906.	595.	2477.	7841.	7485.	9514.	17000.	9258.	9160.	970.	7769.	3036.
64	9	1582.	2864.	1905.	1407.	3936.	14521.	13696.	15940.	17000.	15551.	15577.	970.	14534.	9835.
64	10	213.	718.	1025.	491.	1105.	4069.	1877.	3791.	11718.	8431.	8339.	952.	6262.	200.
64	11	34.	527.	469.	101.	577.	1916.	307.	2245.	5625.	7843.	7700.	952.	5844.	200.
64	12	74.	718.	359.	91.	863.	1483.	297.	2051.	2352.	5127.	5053.	699.	4135.	50.
		4742.	12833.	6462.	4182.	15913.	41689.	33795.	55672.	127530.	53373.	53720.	9712.	45469.	17243.
65	1	189.	772.	323.	141.	967.	1416.	307.	2311.	2004.	2592.	2682.	700.	2031.	491.
65	2	270.	998.	306.	247.	1270.	3030.	3039.	4774.	5085.	1694.	1847.	700.	1846.	1512.
65	3	368.	1004.	383.	370.	1350.	2390.	2320.	4410.	9199.	296.	721.	700.	721.	780.
65	4	311.	953.	280.	275.	1221.	4033.	3959.	5852.	15000.	51.	126.	700.	126.	347.
65	5	248.	810.	235.	234.	1014.	1277.	1349.	2967.	17000.	967.	974.	970.	704.	706.
65	6	264.	767.	265.	264.	963.	1414.	1999.	3369.	17000.	3369.	3500.	970.	3500.	3370.
65	7	585.	1541.	526.	487.	1883.	6152.	6270.	8243.	17000.	8067.	8050.	970.	7737.	5593.
65	8	1176.	2511.	843.	470.	2522.	10223.	9746.	11671.	17000.	11401.	11580.	970.	10167.	5274.
65	9	1317.	2287.	1364.	748.	2859.	16572.	14895.	16469.	17000.	16078.	16219.	970.	14565.	9540.
65	10	351.	912.	907.	348.	1204.	6096.	4021.	6209.	14668.	7878.	7904.	952.	5966.	200.
65	11	149.	739.	556.	107.	915.	3060.	1767.	3620.	11045.	6706.	6841.	952.	5368.	200.
65	12	283.	1095.	483.	187.	1456.	3437.	2551.	4392.	10557.	4616.	4600.	699.	3689.	50.
		5511.	14389.	6471.	3878.	17624.	59099.	52222.	74286.	152558.	63715.	65044.	10252.	56421.	28064.
66	1	340.	1075.	411.	228.	1366.	2140.	1371.	3478.	9000.	4908.	4925.	970.	4080.	2041.
66	2	287.	1107.	341.	282.	1345.	3696.	3746.	5378.	11137.	3240.	3282.	700.	3552.	2744.
66	3	337.	965.	263.	250.	1269.	3581.	3596.	5240.	13571.	2807.	2897.	700.	2897.	3084.
66	4	306.	1066.	239.	234.	1280.	3356.	3306.	5038.	15000.	3609.	3763.	970.	3493.	3656.
66	5	266.	984.	208.	207.	1191.	1777.	1725.	3343.	17000.	1343.	1448.	970.	1448.	1522.
66	6	313.	1059.	286.	285.	1271.	1799.	1752.	3508.	17000.	3508.	3621.	970.	3621.	3595.
66	7	431.	1142.	412.	377.	1291.	3507.	3196.	4846.	17000.	4671.	4720.	970.	3913.	934.
66	8	907.	1469.	717.	236.	1188.	6660.	4784.	6508.	16437.	6790.	6959.	951.	5197.	0.
66	9	458.	835.	553.	75.	715.	4797.	2953.	4660.	14497.	6239.	6279.	951.	4709.	0.
66	10	1.	468.	428.	18.	295.	2465.	307.	1831.	7948.	7782.	7833.	952.	5836.	200.
66	11	0.	384.	327.	18.	315.	1889.	307.	1865.	2210.	7173.	7117.	952.	5493.	200.
66	12	24.	299.	283.	52.	349.	1789.	789.	2438.	1.	4493.	4454.	699.	3796.	50.
		3670.	10854.	4468.	2262.	11876.	37456.	27832.	48133.	140802.	56561.	57296.	10754.	48035.	18026.

		RIRIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW	148		
64	1	13.	500.	359.	0.	144.	0.	359.			
64	2	23.	508.	15.	0.	21.	0.	15.			
64	3	20.	508.	28.	0.	0.	0.	28.			
64	4	23.	508.	15.	0.	0.	0.	15.			
64	5	22.	500.	30.	0.	0.	0.	30.			
64	6	22.	507.	15.	0.	0.	0.	15.			
64	7	97.	588.	15.	0.	0.	0.	15.			
64	8	490.	400.	677.	0.	57.	0.	677.			
64	9	336.	720.	15.	0.	234.	0.	15.			
64	10	126.	829.	15.	0.	520.	0.	16.			
64	11	43.	856.	15.	0.	371.	0.	15.			
64	12	24.	864.	15.	0.	324.	0.	15.			
65	1	26.	500.	390.	0.	144.	0.	390.			
65	2	32.	517.	15.	0.	21.	0.	15.			
65	3	56.	500.	73.	0.	0.	0.	73.			
65	4	58.	543.	15.	0.	0.	0.	15.			
65	5	55.	500.	98.	0.	0.	0.	98.			
65	6	44.	529.	15.	0.	0.	0.	15.			
65	7	402.	500.	430.	0.	0.	0.	430.			
65	8	448.	900.	47.	0.	80.	0.	47.			
65	9	209.	900.	208.	0.	307.	0.	208.			
65	10	85.	900.	84.	0.	468.	0.	84.			
65	11	42.	900.	41.	0.	387.	0.	41.			
65	12	41.	900.	40.	0.	230.	0.	40.			
66	1	37.	500.	436.	0.	144.	0.	437.			
66	2	35.	520.	15.	0.	21.	0.	15.			
66	3	31.	500.	51.	0.	0.	0.	51.			
66	4	35.	520.	15.	0.	0.	0.	15.			
66	5	29.	500.	49.	0.	0.	0.	49.			
66	6	79.	564.	15.	0.	0.	0.	15.			
66	7	192.	740.	15.	0.	0.	0.	15.			
66	8	139.	863.	15.	0.	183.	0.	16.			
66	9	59.	900.	21.	0.	337.	0.	20.			
66	10	23.	900.	22.	0.	451.	0.	22.			
66	11	7.	890.	15.	0.	327.	0.	15.			
66	12	11.	886.	15.	0.	280.	0.	15.			

1-M

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES				HENRYS LAKE	GRASSY LAKE	RIRIE					
						JACKSON LAKE	ISLAND PARK										
64	1	16	5.	700.	37	0.	0.	11	3250.	0.	59	0.	59	0.	50	0.	500.
64	2	16	5.	700.	37	0.	0.	11	2250.	0.	59	0.	59	0.	0.	10	0.
64	3	16	5.	700.	37	0.	0.	11	2250.	0.	59	0.	12	400.	0.	10	0.
64	4	15	0.	700.	37	0.	0.	12	1500.	0.	10	0.	12	400.	0.	10	0.
64	5	15	0.	700.	37	0.	0.	11	2750.	0.	10	0.	12	400.	0.	10	500.
64	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	100.	0.	10	0.
64	7	50	0.	950.	37	0.	0.	37	0.	0.	10	0.	12	100.	0.	10	0.
64	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	400.
64	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	0.
64	10	50	0.	950.	37	0.	0.	37	0.	12	3000.	0.	12	750.	0.	10	0.
64	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	12	750.	100.	10	0.
64	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	12	100.	10	0.
65	1	16	15.	700.	37	0.	0.	11	3250.	0.	53	0.	59	0.	0.	10	500.
65	2	16	15.	700.	37	0.	0.	30	0.	0.	53	0.	59	0.	0.	10	0.
65	3	16	5.	700.	37	0.	0.	11	2250.	0.	53	0.	12	400.	0.	10	500.
65	4	15	0.	700.	49	0.	15000.	30	0.	0.	10	0.	12	400.	0.	10	0.
65	5	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	10	500.
65	6	15	0.	700.	37	0.	0.	45	0.	0.	45	0.	12	100.	0.	10	0.
65	7	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	500.
65	8	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	0.
65	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	0.
65	10	50	0.	950.	37	0.	0.	37	0.	12	3000.	0.	12	750.	0.	10	0.
65	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	12	100.	10	0.
65	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	12	100.	10	0.
66	1	14	4600.	700.	49	0.	9000.	11	3250.	0.	53	0.	59	0.	0.	10	500.
66	2	16	20.	700.	37	0.	0.	30	0.	0.	53	0.	59	0.	0.	10	0.
66	3	16	15.	700.	37	0.	0.	30	0.	12	400.	0.	12	400.	0.	10	500.
66	4	16	5.	700.	49	0.	15000.	30	0.	0.	10	0.	12	400.	0.	10	0.
66	5	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	10	500.
66	6	15	0.	700.	37	0.	0.	10	0.	0.	10	0.	12	400.	0.	10	0.
66	7	50	0.	950.	37	0.	0.	37	0.	0.	10	0.	37	0.	0.	10	0.
66	8	50	0.	950.	37	0.	0.	37	0.	8470.	50	0.	12	750.	0.	10	0.
66	9	50	0.	950.	37	0.	0.	45	0.	0.	45	0.	12	750.	0.	10	0.
66	10	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	10	0.
66	11	50	0.	950.	37	0.	0.	37	0.	0.	12	3000.	0.	37	0.	10	0.
66	12	50	0.	700.	37	0.	0.	37	0.	0.	12	2500.	0.	37	50.	10	0.



UPPER KE RIVER DIGITAL MODEL					1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS						
WYR	MO	FCSPSN	FRCSTH	SYSCON SNAKE H.FORK	SYSCON H.FORK	RENT POOL	XCUT CANAL	GAIN USED BY MINDKA BURLEY	TOTAL XCUT	H.FORK SMSHRT	
67	1	0.	0.	14505.	1906.	0.	0.	0.	0.	0.	
67	2	0.	0.	18190.	1932.	0.	0.	0.	0.	0.	
67	3	0.	0.	22362.	2000.	0.	0.	0.	0.	0.	
67	4	0.	3723.	26685.	2049.	0.	0.	0.	0.	0.	
67	5	0.	3783.	30307.	2058.	0.	0.	0.	0.	0.	
67	6	0.	3640.	33758.	2260.	0.	0.	0.	0.	0.	
67	7	0.	3446.	35434.	2271.	0.	0.	0.	0.	0.	
67	8	840.	3296.	37589.	2287.	0.	0.	0.	0.	0.	
67	9	860.	2425.	39410.	2322.	77611.	0.	0.	0.	0.	
67	10	190.	1038.	35961.	2336.	393014.	0.	6370.	3430.	383.	
67	11	0.	0.	27658.	2209.	387023.	0.	390.	210.	11469.	
67	12	0.	0.	21915.	2062.	379767.	0.	15535.	8365.	3972.	
1890.				21351.343773.	25694.*****		0.	22295.	12005.	15825.	0.
68	1	0.	0.	22406.	2084.	0.	0.	0.	0.	0.	
68	2	0.	0.	25208.	2117.	0.	0.	0.	0.	0.	
68	3	0.	0.	28082.	2236.	0.	0.	0.	0.	0.	
68	4	0.	3533.	32095.	2329.	0.	0.	0.	0.	0.	
68	5	0.	3326.	36033.	2331.	0.	0.	0.	0.	0.	
68	6	0.	3273.	37076.	2332.	0.	0.	0.	0.	0.	
68	7	0.	2899.	38335.	2332.	71404.	0.	0.	0.	0.	
68	8	290.	2626.	37448.	2345.	69324.	0.	0.	11690.	0.	
68	9	550.	1947.	39719.	2345.	381518.	0.	0.	0.	20.	
68	10	20.	617.	31961.	2195.	373318.	0.	6435.	3465.	6876.	
68	11	0.	0.	29519.	2112.	372846.	0.	0.	16765.	877.	
68	12	0.	0.	27161.	1985.	370670.	0.	9629.	16450.	9.	
860.				18221.385041.	26742.*****		0.	16064.	48370.	7783.	0.
69	1	0.	0.	26378.	2001.	0.	0.	0.	0.	0.	
69	2	0.	0.	28396.	2037.	0.	0.	0.	0.	0.	
69	3	0.	0.	31553.	2104.	0.	0.	0.	0.	0.	
69	4	0.	4035.	33776.	2223.	0.	0.	0.	0.	0.	
69	5	0.	4236.	36686.	2286.	0.	0.	0.	0.	0.	
69	6	0.	3990.	37624.	2320.	0.	0.	0.	0.	0.	
69	7	0.	3410.	39002.	2334.	0.	0.	0.	0.	0.	
69	8	390.	2746.	39818.	2345.	0.	0.	572.	3780.	53.	
69	9	190.	1199.	40078.	2345.	77611.	0.	0.	0.	20.	
69	10	0.	405.	33972.	2131.	391950.	0.	7540.	4060.	8701.	
69	11	0.	0.	27613.	1794.	243190.	0.	28340.	15260.	9302.	
69	12	0.	0.	25517.	1655.	98615.	0.	42930.	27055.	0.	
580.				20021.400414.	25577.811367.		0.	79382.	50155.	18076.	-119.

UPPER SNAKE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS				1-M									
JACKSON LAKE		PALISADES		HEISE		HENRYS LAKE		ISLAND PARK		H. FORK		GRASSY LAKE					
WYR	MO	INFLOW	OUTFLOW	INFLOW	EDM	OUTFLOW	EDM	INFLOW	SEEPAG	EDM	OUTFLOW	EDM	OUTFLOW				
67	1	255.	4588.	255.	1808.	9107.	1974.	2231.	718.	0.	295.	0.	1135.	295.	751.	53.	0.
67	2	266.	4588.	266.	1565.	9631.	1041.	1295.	740.	0.	285.	0.	1135.	285.	740.	57.	0.
67	3	288.	4588.	288.	1417.	10125.	922.	1165.	772.	0.	278.	0.	1167.	246.	684.	61.	0.
67	4	355.	4913.	31.	1182.	10385.	922.	1188.	802.	0.	259.	0.	1180.	246.	697.	67.	0.
67	5	282.	5167.	28.	1008.	10560.	833.	1081.	817.	0.	212.	0.	1170.	222.	602.	71.	0.
67	6	266.	5402.	31.	1208.	11123.	645.	935.	843.	7.	233.	0.	1342.	61.	497.	75.	0.
67	7	353.	5692.	30.	1833.	12332.	595.	800.	843.	47.	304.	0.	1350.	284.	746.	78.	0.
67	8	1892.	7494.	30.	6149.	13412.	5023.	5603.	843.	85.	838.	0.	1350.	816.	1793.	94.	0.
67	9	4679.	8155.	3918.	14670.	13355.	14661.	15342.	843.	167.	999.	0.	1350.	967.	1810.	129.	0.
67	10	1868.	8066.	1845.	8537.	14000.	7816.	8104.	843.	77.	533.	0.	1350.	489.	1070.	143.	0.
67	11	704.	6818.	1845.	4420.	13052.	5298.	5487.	796.	61.	415.	0.	1265.	461.	1060.	148.	0.
67	12	375.	5642.	1488.	3453.	12085.	4377.	4615.	760.	60.	376.	0.	1172.	446.	905.	130.	24.
		11583.	71113.	10052.	47248.	139165.	44108.	47847.	9621.	504.	5027.	0.	14966.	4820.	11357.	1107.	24.
68	1	421.	5642.	386.	2339.	12552.	1845.	2214.	793.	0.	364.	0.	1161.	364.	868.	131.	0.
68	2	258.	5642.	258.	1835.	12242.	2145.	2433.	825.	0.	317.	0.	1161.	317.	756.	132.	0.
68	3	289.	5642.	289.	1644.	11931.	1954.	2282.	843.	23.	345.	0.	1260.	246.	700.	134.	0.
68	4	313.	5924.	31.	1289.	11621.	1599.	1874.	843.	35.	343.	0.	1350.	253.	736.	136.	0.
68	5	320.	6215.	29.	1272.	12318.	575.	808.	843.	31.	299.	0.	1350.	299.	749.	138.	0.
68	6	269.	6453.	31.	1391.	13094.	615.	856.	843.	30.	314.	0.	1350.	314.	797.	139.	0.
68	7	319.	6708.	30.	2013.	14000.	1075.	1365.	843.	44.	364.	0.	1350.	352.	869.	139.	0.
68	8	1570.	8186.	30.	5183.	13797.	5338.	6059.	843.	71.	676.	0.	1350.	654.	1612.	152.	2.
68	9	3954.	8231.	3808.	13173.	13588.	13316.	13989.	843.	83.	550.	0.	1350.	518.	1297.	152.	32.
68	10	1341.	7616.	1845.	6658.	13093.	7077.	7381.	843.	30.	354.	0.	1200.	461.	979.	152.	8.
68	11	908.	6573.	1845.	4797.	14000.	3820.	4243.	814.	61.	444.	0.	1146.	461.	1059.	152.	6.
68	12	527.	5549.	1488.	3803.	14000.	3757.	4004.	796.	60.	380.	0.	1058.	446.	908.	130.	27.
		10489.	78382.	10067.	45395.	156236.	43117.	47509.	9972.	468.	4750.	0.	15086.	4686.	11331.	1684.	75.
69	1	296.	5549.	261.	2227.	14000.	2198.	2483.	824.	0.	313.	0.	1048.	313.	778.	130.	0.
69	2	321.	5549.	321.	1895.	13400.	2495.	2787.	843.	15.	294.	0.	1063.	279.	784.	132.	0.
69	3	290.	5549.	290.	1680.	12800.	2280.	2597.	843.	36.	311.	0.	1128.	246.	713.	134.	0.
69	4	475.	5993.	31.	1574.	12200.	2174.	2497.	843.	54.	362.	0.	1244.	246.	725.	137.	0.
69	5	333.	6299.	28.	1243.	12888.	555.	838.	843.	33.	284.	0.	1306.	222.	645.	138.	0.
69	6	218.	6486.	31.	1306.	13579.	615.	848.	843.	19.	279.	0.	1339.	246.	682.	139.	0.
69	7	681.	7102.	30.	3878.	14000.	3425.	4007.	843.	66.	519.	0.	1350.	496.	1415.	141.	0.
69	8	3294.	8291.	2043.	10906.	13727.	11131.	11855.	843.	100.	1147.	0.	1350.	1125.	2381.	152.	28.
69	9	2328.	8321.	2196.	8313.	13858.	8116.	8659.	843.	117.	674.	0.	1350.	642.	1368.	152.	29.
69	10	1068.	7433.	1845.	5298.	14000.	5079.	5299.	843.	38.	446.	0.	1136.	617.	1174.	152.	10.
69	11	481.	5964.	1845.	3914.	14000.	3842.	4106.	772.	61.	418.	0.	907.	613.	1169.	115.	41.
69	12	359.	4773.	1488.	3244.	14000.	3198.	3384.	723.	60.	417.	0.	859.	446.	987.	73.	43.
		10144.	77309.	10407.	45477.	162451.	45108.	49360.	9905.	598.	5463.	0.	14079.	5492.	12822.	1592.	151.

UPPER KEE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	FL RIV H.FORK		TT RIV		H.FORK		SHELLY		BLKFT		AMERICAN FALLS		LAKE WALCOTT		MILNER	
		CHESTR	STANTY	STANTY	STANTY	OUTFLO	RIV	REXBRG	FLOW	FLOW	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	FLOW
67	1	203.	812.	283.	102.	1018.	1392.	307.	2608.	310.	2258.	2286.	700.	1810.	146.		
67	2	255.	888.	274.	216.	1072.	1776.	1696.	3477.	3468.	319.	432.	700.	432.	192.		
67	3	258.	860.	219.	206.	1067.	2032.	1999.	3761.	7148.	81.	205.	700.	205.	258.		
67	4	240.	913.	201.	196.	1097.	2012.	2041.	3763.	10881.	30.	166.	700.	166.	287.		
67	5	213.	795.	195.	194.	970.	1766.	1849.	3227.	14080.	27.	134.	700.	134.	191.		
67	6	256.	654.	310.	309.	907.	1414.	1502.	3023.	16705.	398.	437.	700.	437.	179.		
67	7	299.	846.	274.	235.	831.	1432.	1395.	3000.	16808.	2728.	2747.	950.	2184.	0.		
67	8	1009.	2357.	721.	353.	2158.	4897.	3567.	5423.	15828.	6145.	6111.	951.	4818.	0.		
67	9	1407.	2573.	1574.	997.	3289.	15119.	13483.	15521.	17000.	13990.	13912.	970.	12579.	7944.		
67	10	598.	1199.	1038.	533.	1736.	5162.	3063.	4884.	12995.	8248.	8123.	952.	6041.	200.		
67	11	95.	582.	445.	13.	590.	1977.	307.	2269.	6888.	7860.	7695.	952.	5857.	200.		
67	12	82.	726.	353.	59.	803.	1667.	297.	2051.	3292.	5438.	5595.	699.	4642.	50.		
		4915.	13207.	5887.	3413.	15540.	40645.	31505.	53006.	125403.	47522.	47843.	9673.	39304.	9646.		
68	1	266.	958.	396.	215.	1247.	1801.	770.	2857.	3712.	2354.	2570.	700.	2021.	318.		
68	2	298.	1061.	311.	252.	1367.	3199.	3399.	5013.	6816.	1909.	2000.	700.	2000.	1696.		
68	3	269.	924.	280.	267.	1182.	2956.	2932.	4595.	10009.	1402.	1550.	700.	1550.	1666.		
68	4	262.	960.	261.	256.	1290.	2503.	2422.	4065.	14043.	30.	207.	700.	207.	385.		
68	5	261.	1010.	258.	257.	1282.	1848.	1834.	3481.	17000.	524.	669.	970.	399.	561.		
68	6	294.	990.	330.	329.	1214.	1752.	1688.	3374.	17000.	3374.	3422.	970.	3422.	3259.		
68	7	334.	933.	303.	268.	961.	2072.	1726.	3228.	17000.	3053.	3149.	970.	2653.	343.		
68	8	932.	1828.	755.	356.	1739.	4706.	2906.	4647.	14591.	6776.	6876.	951.	5144.	0.		
68	9	1574.	2341.	1611.	1041.	1336.	12476.	10856.	12866.	17000.	10072.	9802.	970.	8246.	3193.		
68	10	100.	500.	818.	298.	729.	2477.	307.	2235.	10352.	8252.	8190.	952.	6128.	200.		
68	11	121.	818.	584.	298.	1274.	2619.	1726.	3767.	8045.	5596.	5808.	952.	4719.	200.		
68	12	145.	825.	433.	182.	1075.	2017.	1352.	3217.	6712.	4327.	4375.	699.	3600.	50.		
		4856.	13149.	6340.	4019.	16497.	40425.	31917.	53344.	142280.	47669.	48618.	10232.	40089.	11871.		
69	1	200.	691.	469.	284.	1313.	2188.	1454.	3476.	6329.	3757.	3762.	700.	3340.	2174.		
69	2	314.	945.	385.	324.	1416.	3781.	3958.	5698.	8934.	3093.	3140.	700.	3139.	2945.		
69	3	314.	955.	286.	273.	1221.	3770.	3718.	5336.	12704.	1566.	1746.	700.	1746.	1928.		
69	4	295.	988.	320.	315.	1311.	3674.	3615.	5671.	15000.	3375.	3609.	970.	3339.	3454.		
69	5	247.	866.	244.	243.	1151.	1761.	1816.	3511.	17000.	1511.	1734.	970.	1734.	1871.		
69	6	271.	902.	267.	266.	1232.	1712.	1864.	3710.	17000.	3710.	3820.	970.	3820.	3749.		
69	7	695.	1651.	797.	762.	2434.	6000.	6288.	7798.	17000.	7623.	7623.	970.	6943.	4217.		
69	8	1405.	2631.	1451.	986.	3435.	12033.	10246.	12586.	17000.	12286.	12187.	970.	10211.	4922.		
69	9	698.	1378.	1222.	683.	2212.	8113.	6892.	9203.	17000.	8805.	8440.	970.	6982.	2300.		
69	10	227.	494.	963.	448.	1138.	2645.	1072.	3195.	11639.	7920.	7779.	952.	5736.	200.		
69	11	0.	415.	618.	278.	1024.	1927.	933.	2912.	6749.	7309.	7223.	952.	5353.	200.		
69	12	0.	619.	510.	273.	1230.	2086.	1430.	3304.	5844.	3991.	4129.	699.	3375.	50.		
		4666.	12535.	7532.	5135.	19117.	49692.	43288.	66402.	152199.	64946.	65192.	10522.	55719.	28011.		

		RIRIE				PUMP FLOW148			
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	DIVRTD	PUMP	FLOW148
67	1	14.	500.	399.	0.	144.	0.	400.	
67	2	18.	503.	15.	0.	21.	0.	15.	
67	3	21.	500.	24.	0.	0.	0.	24.	
67	4	22.	507.	15.	0.	0.	0.	15.	
67	5	20.	500.	27.	0.	0.	0.	27.	
67	6	43.	528.	15.	0.	0.	0.	15.	
67	7	90.	602.	15.	0.	0.	0.	15.	
67	8	269.	855.	15.	0.	103.	0.	16.	
67	9	164.	900.	118.	0.	298.	0.	118.	
67	10	60.	900.	59.	0.	454.	0.	59.	
67	11	19.	900.	18.	0.	393.	0.	17.	
67	12	13.	897.	15.	0.	389.	0.	15.	
68	1	27.	500.	424.	0.	144.	0.	424.	
68	2	23.	508.	15.	0.	21.	0.	15.	
68	3	24.	500.	32.	0.	0.	0.	32.	
68	4	22.	507.	15.	0.	0.	0.	15.	
68	5	35.	500.	42.	0.	0.	0.	42.	
68	6	44.	529.	15.	0.	0.	0.	15.	
68	7	113.	626.	15.	0.	0.	0.	15.	
68	8	263.	873.	15.	0.	136.	0.	16.	
68	9	161.	900.	133.	0.	382.	0.	133.	
68	10	47.	900.	46.	0.	526.	0.	46.	
68	11	40.	900.	39.	0.	256.	0.	39.	
68	12	28.	900.	27.	0.	292.	0.	27.	
69	1	33.	500.	432.	0.	144.	0.	433.	
69	2	28.	513.	15.	0.	21.	0.	15.	
69	3	26.	500.	39.	0.	0.	0.	39.	
69	4	98.	583.	15.	0.	0.	0.	15.	
69	5	28.	500.	111.	0.	0.	0.	111.	
69	6	75.	560.	15.	0.	0.	0.	15.	
69	7	427.	800.	86.	0.	0.	0.	86.	
69	8	417.	800.	516.	0.	244.	0.	516.	
69	9	140.	900.	39.	0.	316.	0.	39.	
69	10	59.	900.	58.	0.	454.	0.	58.	
69	11	28.	900.	27.	0.	395.	0.	27.	
69	12	23.	900.	22.	0.	366.	0.	22.	

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	JACKSON LAKE	ISLAND PARK	HENRYS LAKE	GRASSY LAKE	RIRIE
OPCODES										
67	1	50	0.	700. 37	0.	11 3250.	0. 59	0.	0. 59	0.
67	2	16	5.	700. 10	0.	11 2250.	0. 59	0.	0. 59	0.
67	3	50	0.	700. 37	0.	11 2250.	0. 59	0.	0. 59	0.
67	4	15	0.	700. 37	0.	12 1500.	0. 10	0.	0. 10	0.
67	5	15	0.	700. 37	0.	11 2750.	0. 10	0.	0. 10	0.
67	6	15	0.	700. 37	0.	10	0. 10	0.	0. 10	0.
67	7	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
67	8	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
67	9	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
67	10	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
67	11	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
67	12	50	0.	700. 37	0.	37	0. 37	0.	0. 37	0.
68	1	16	15.	700. 37	0.	11 3250.	0. 53	0.	0. 53	0.
68	2	16	15.	700. 37	0.	30	0. 30	0.	0. 30	0.
68	3	16	10.	700. 37	0.	30	0. 30	0.	0. 30	0.
68	4	15	0.	700. 37	0.	30	0. 30	0.	0. 30	0.
68	5	15	0.	700. 37	0.	10	0. 10	0.	0. 10	0.
68	6	15	0.	700. 37	0.	10	0. 10	0.	0. 10	0.
68	7	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
68	8	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
68	9	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
68	10	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
68	11	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
68	12	50	0.	700. 37	0.	37	0. 37	0.	0. 37	0.
69	1	16	20.	700. 37	0.	11 3250.	0. 53	0.	0. 53	0.
69	2	16	20.	700. 37	0.	30	0. 30	0.	0. 30	0.
69	3	16	10.	700. 37	0.	30	0. 30	0.	0. 30	0.
69	4	16	5.	700. 49	0. 15000.	30	0. 10	0.	0. 10	0.
69	5	15	0.	700. 37	0.	10	0. 10	0.	0. 10	0.
69	6	15	0.	700. 37	0.	10	0. 10	0.	0. 10	0.
69	7	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
69	8	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
69	9	50	0.	950. 37	0.	45	0. 45	0.	0. 45	0.
69	10	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
69	11	50	0.	950. 37	0.	37	0. 37	0.	0. 37	0.
69	12	50	0.	700. 37	0.	37	0. 37	0.	0. 37	0.

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	FCSPSN	FRCSTH	SYSCON SNAKE	SYSCON H.FORK	RENT POOL	XCUT CANAL	GAIN MINDKA	USED BURLEY	TOTAL XCUT	H.FORK SMSHRT
70	1	0.	0.	27492.	1673.	0.	0.	0.	0.	0.	0.
70	2	0.	0.	29648.	1708.	0.	0.	0.	0.	0.	0.
70	3	0.	0.	31039.	1833.	0.	0.	0.	0.	0.	0.
70	4	0.	3609.	32847.	2161.	0.	0.	0.	0.	0.	0.
70	5	0.	3809.	35530.	2213.	0.	0.	0.	0.	0.	0.
70	6	0.	3353.	36295.	2286.	0.	0.	0.	0.	0.	0.
70	7	0.	3119.	37416.	2289.	0.	0.	0.	0.	0.	0.
70	8	650.	3045.	39088.	2305.	0.	0.	0.	0.	0.	0.
70	9	670.	2128.	39599.	2342.	49971.	0.	0.	0.	0.	0.
70	10	0.	548.	36983.	1956.	366530.	0.	0.	0.	2868.	0.
70	11	0.	0.	30605.	1241.	280539.	0.	0.	0.	8781.	0.
70	12	0.	0.	30612.	1628.	276439.	0.	0.	0.	0.	0.
1320. 19611.407153. 23635.973480. 0. 0. 0. 11649. 0.											
71	1	0.	0.	28605.	1641.	0.	0.	0.	0.	0.	0.
71	2	0.	0.	30036.	1855.	0.	0.	0.	0.	0.	0.
71	3	0.	0.	31405.	1991.	0.	0.	0.	0.	0.	0.
71	4	0.	5445.	33275.	2101.	0.	0.	0.	0.	0.	0.
71	5	0.	5058.	36245.	2184.	0.	0.	0.	0.	0.	0.
71	6	0.	4806.	37427.	2334.	0.	0.	0.	0.	0.	0.
71	7	1270.	4997.	37216.	2335.	0.	0.	0.	0.	0.	0.
71	8	1600.	4721.	38008.	2345.	0.	0.	0.	0.	0.	0.
71	9	1350.	3186.	38477.	2345.	70978.	0.	0.	0.	0.	0.
71	10	150.	932.	39834.	2321.	387536.	0.	0.	0.	2625.	0.
71	11	0.	0.	35618.	2158.	387087.	0.	0.	0.	6098.	0.
71	12	0.	0.	37000.	1980.	383830.	0.	0.	0.	0.	0.
4370. 29145.423147. 25588.***** 0. 0. 0. 8723. 0.											
72	1	0.	0.	29846.	2000.	0.	0.	0.	0.	0.	0.
72	2	0.	0.	31274.	2042.	0.	0.	0.	0.	0.	0.
72	3	0.	0.	32646.	2203.	0.	0.	0.	0.	0.	0.
72	4	0.	4895.	34480.	2335.	0.	0.	0.	0.	0.	0.
72	5	0.	4963.	37652.	2337.	0.	0.	0.	0.	0.	0.
72	6	160.	5042.	39090.	2340.	0.	0.	0.	0.	0.	0.
72	7	1050.	4662.	38854.	2341.	0.	0.	0.	0.	0.	0.
72	8	1510.	4330.	38797.	2345.	77611.	0.	0.	0.	0.	0.
72	9	1190.	2896.	39079.	2345.	394090.	0.	0.	0.	3933.	0.
72	10	150.	927.	37102.	2215.	393250.	0.	0.	0.	2639.	0.
72	11	0.	0.	33503.	2107.	393250.	0.	0.	0.	0.	0.
72	12	0.	0.	34398.	2030.	389536.	0.	0.	0.	0.	0.
4060. 27715.426719. 26640.***** 0. 0. 0. 6572. 0.											



[illegible]

UPPER SNAKE RIVER DIGITAL MODEL										1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS										1-M			
FL RIV H.FORK TT RIV TT RIV H.FORK SHELLEY BLKFT AMERICAN FALLS LAKE WALKCOTT MILNER																							
WYR	MO	CHESTR	STANTY	STANTY	OUTFLO	REXBRG	FLOW	FLOW	INFLOW	INFLOW	OUTFLO	INFLOW	INFLOW	OUTFLO	FLOW	FLOW							
70	1	155.	756.	424.	245.	1815.	3423.	2449.	6272.	8253.	3757.	3532.	700.	3138.	808.								
70	2	257.	918.	317.	258.	1518.	3746.	3776.	6469.	11000.	3721.	3834.	970.	3564.	2581.								
70	3	288.	905.	281.	268.	1242.	3482.	3557.	5504.	13000.	3504.	3707.	970.	3707.	3779.								
70	4	299.	741.	254.	249.	897.	2973.	2990.	4823.	15000.	2823.	3203.	970.	3203.	3364.								
70	5	261.	814.	216.	215.	1060.	1671.	1659.	3116.	17000.	1116.	1375.	970.	1375.	1507.								
70	6	281.	846.	240.	239.	1137.	1690.	1652.	3409.	17000.	3409.	3523.	970.	3523.	3172.								
70	7	269.	554.	374.	339.	1075.	1429.	1429.	4728.	17000.	4553.	4428.	970.	4024.	482.								
70	8	1216.	2234.	1150.	883.	3344.	10567.	10023.	16339.	17000.	16066.	15039.	970.	13744.	4505.								
70	9	1974.	2322.	2263.	1616.	5430.	17785.	15317.	22249.	17000.	21821.	20142.	970.	18716.	9106.								
70	10	327.	495.	1454.	924.	3305.	7419.	5867.	13479.	14386.	15443.	13546.	952.	11549.	200.								
70	11	46.	458.	811.	433.	2553.	4320.	2848.	10484.	9480.	14845.	13061.	952.	11230.	200.								
70	12	207.	274.	547.	322.	1757.	4752.	3951.	9535.	10607.	8156.	7502.	699.	6868.	50.								
										5580.	11318.	8331.	5991.	25134.	63257.	55518.	106407.	166725.	99214.	92892.	11062.	84640.	29753.
71	1	336.	1161.	383.	273.	3100.	5205.	3851.	5928.	9000.	7406.	7095.	970.	6344.	3707.								
71	2	453.	1091.	329.	281.	1993.	4835.	4874.	6685.	11000.	4685.	4863.	970.	4863.	3880.								
71	3	395.	1115.	287.	276.	1340.	4307.	4345.	6137.	13000.	4137.	4450.	970.	4450.	4550.								
71	4	371.	1115.	297.	292.	1222.	3348.	3366.	5327.	15000.	3327.	3721.	970.	3721.	4048.								
71	5	341.	974.	258.	257.	1132.	1809.	1751.	3391.	17000.	1391.	1500.	970.	1500.	1890.								
71	6	378.	1029.	381.	380.	1346.	1819.	1871.	3618.	17000.	3618.	3766.	970.	3766.	3679.								
71	7	637.	1532.	601.	585.	1708.	7259.	7677.	9814.	17000.	9641.	9490.	970.	9238.	6264.								
71	8	2161.	4049.	1669.	1300.	5765.	23514.	22111.	24480.	17000.	24196.	23266.	970.	22008.	12934.								
71	9	2041.	3101.	2721.	2098.	7233.	30009.	27201.	29275.	17000.	28872.	27522.	970.	25952.	16439.								
71	10	868.	1303.	1788.	1194.	5225.	17638.	14377.	16370.	16816.	15878.	14057.	952.	11976.	200.								
71	11	297.	888.	1012.	590.	4098.	13025.	10412.	12484.	13621.	15105.	13459.	952.	11620.	200.								
71	12	349.	1288.	728.	488.	3857.	11242.	10127.	12053.	16043.	9361.	8582.	699.	7812.	50.								
										8627.	18646.	10454.	8014.	38019.	124010.	111963.	135562.	179480.	127618.	121772.	11332.	113250.	57841.
72	1	388.	1489.	663.	539.	3457.	6987.	6144.	8292.	9000.	15195.	14965.	970.	14229.	11714.								
72	2	433.	1332.	483.	441.	2490.	5651.	5909.	7880.	11000.	5880.	5968.	970.	5968.	5447.								
72	3	418.	1194.	308.	299.	1672.	4534.	4636.	6467.	13000.	4467.	4751.	970.	4751.	4923.								
72	4	401.	1127.	319.	314.	1543.	3423.	3579.	5478.	15000.	3478.	3747.	970.	3747.	4107.								
72	5	335.	1143.	279.	278.	1556.	1918.	2239.	3996.	17000.	1996.	2177.	970.	2177.	2464.								
72	6	458.	1406.	528.	527.	1875.	2829.	3218.	4895.	17000.	4895.	5375.	970.	5375.	5379.								
72	7	796.	1673.	711.	649.	1927.	9028.	8816.	10070.	17000.	9892.	10015.	970.	9446.	6111.								
72	8	1909.	3753.	2033.	1566.	7590.	22051.	18941.	21040.	17000.	20742.	19868.	970.	18092.	8020.								
72	9	1659.	3102.	2468.	1875.	8151.	28072.	25448.	27453.	17000.	27051.	26391.	970.	24890.	15106.								
72	10	600.	2053.	1431.	892.	6846.	13849.	11089.	12972.	14386.	14939.	13692.	952.	11724.	200.								
72	11	237.	1501.	964.	590.	5320.	11910.	9797.	11938.	11941.	13828.	12536.	952.	10837.	200.								
72	12	390.	1977.	687.	451.	5467.	9825.	8371.	10303.	13782.	8201.	7747.	699.	7127.	50.								
										8024.	21752.	10874.	8421.	47896.	120075.	108185.	130782.	173110.	130563.	127231.	11332.	118362.	63720.

UPPER KE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

		RIRIE					PUMP FLOW148				
		INFLOW	EDM	OUTFLO	DIVRTD	DIVRTD	OUTFLO	DIVRTD	DIVRTD	PUMP FLOW148	
70 1	29.	500.	428.	0.	144.	0.	429.	0.	15.		
70 2	24.	509.	15.	0.	21.	0.	25.	0.	15.		
70 3	16.	500.	25.	0.	0.	0.	25.	0.	25.		
70 4	34.	519.	15.	0.	0.	0.	15.	0.	15.		
70 5	36.	500.	55.	0.	0.	0.	55.	0.	55.		
70 6	36.	521.	15.	0.	0.	0.	15.	0.	15.		
70 7	74.	579.	15.	0.	0.	0.	15.	0.	15.		
70 8	515.	900.	193.	0.	55.	0.	194.	0.	194.		
70 9	225.	900.	224.	0.	289.	0.	224.	0.	224.		
70 10	71.	900.	70.	0.	500.	0.	70.	0.	70.		
70 11	29.	900.	28.	0.	447.	0.	28.	0.	28.		
70 12	31.	900.	30.	0.	236.	0.	30.	0.	30.		
71 1	34.	500.	433.	0.	198.	0.	434.	0.	15.		
71 2	46.	531.	15.	0.	28.	0.	15.	0.	15.		
71 3	39.	500.	70.	0.	0.	0.	70.	0.	70.		
71 4	42.	527.	15.	0.	0.	0.	15.	0.	15.		
71 5	32.	500.	59.	0.	0.	0.	59.	0.	59.		
71 6	94.	579.	15.	0.	0.	0.	15.	0.	15.		
71 7	370.	300.	648.	0.	0.	0.	648.	0.	648.		
71 8	898.	200.	997.	0.	155.	0.	997.	0.	997.		
71 9	274.	458.	15.	0.	364.	0.	15.	0.	15.		
71 10	106.	548.	15.	0.	491.	0.	16.	0.	16.		
71 11	52.	583.	15.	0.	458.	0.	16.	0.	16.		
71 12	44.	611.	15.	0.	239.	0.	15.	0.	15.		
72 1	51.	500.	162.	0.	58.	0.	162.	0.	162.		
72 2	43.	528.	15.	0.	23.	0.	15.	0.	15.		
72 3	39.	500.	67.	0.	0.	0.	67.	0.	67.		
72 4	33.	518.	15.	0.	0.	0.	15.	0.	15.		
72 5	60.	500.	78.	0.	0.	0.	78.	0.	78.		
72 6	168.	653.	15.	0.	0.	0.	15.	0.	15.		
72 7	442.	500.	594.	0.	0.	0.	594.	0.	594.		
72 8	590.	900.	189.	0.	292.	0.	190.	0.	190.		
72 9	233.	900.	232.	0.	373.	0.	232.	0.	232.		
72 10	82.	900.	81.	0.	552.	0.	81.	0.	81.		
72 11	45.	900.	44.	0.	439.	0.	44.	0.	44.		
72 12	42.	900.	41.	0.	395.	0.	41.	0.	41.		

WYR	MO	LAKE WALCOTT		AMERICAN FALLS		PALISADES		OPCODES		JACKSON LAKE		ISLAND PARK		HENRYS LAKE		GRASSY LAKE		RIRIE	
		LAKE	WALCOTT	AMERICAN FALLS	PALISADES	PALISADES	PALISADES	JACKSON LAKE	JACKSON LAKE	ISLAND PARK	ISLAND PARK	HENRYS LAKE	HENRYS LAKE	GRASSY LAKE	GRASSY LAKE	GRASSY LAKE	GRASSY LAKE	RIRIE	RIRIE
70	1	16	20.	700. 37	0.	0.	11 3250.	0.	59	0.	59	0.	37	0.	37	0.	50	0.	500.
70	2	16	20.	700. 49	0.	11000.	30	0.	59	0.	59	0.	58	0.	58	0.	10	0.	0.
70	3	16	10.	700. 49	0.	13000.	30	0.	59	0.	12 400.	0.	12	0.	12	0.	50	0.	500.
70	4	16	5.	700. 49	0.	15000.	30	0.	10	0.	12 50.	0.	12	0.	12	0.	10	0.	0.
70	5	15	0.	700. 37	0.	0.	10	0.	10	0.	12 400.	0.	53	0.	53	0.	50	0.	500.
70	6	15	0.	700. 37	0.	0.	10	0.	10	0.	12 400.	0.	53	0.	53	0.	10	0.	0.
70	7	50	0.	950. 37	0.	0.	37	0.	10	0.	37	0.	53	0.	53	0.	10	0.	0.
70	8	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	53	0.	53	0.	10	0.	0.
70	9	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
70	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
70	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	37	0.	12 100.	0.	12	0.	10	0.	0.
70	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	37	0.	12 100.	0.	49	0.	130. 10	0.	0.
71	1	14	4600.	700. 49	0.	9000.	11 3250.	0.	53	0.	59	0.	37	0.	37	0.	50	0.	500.
71	2	16	20.	700. 49	0.	11000.	30	0.	53	0.	58	5.	58	0.	58	0.	10	0.	0.
71	3	16	15.	700. 49	0.	13000.	30	0.	53	0.	12 400.	0.	12	0.	12	0.	50	0.	500.
71	4	16	5.	700. 49	0.	15000.	30	0.	10	0.	12 400.	0.	12	0.	12	0.	10	0.	0.
71	5	15	0.	700. 37	0.	0.	10	0.	10	0.	12 400.	0.	53	0.	53	0.	50	0.	500.
71	6	15	0.	700. 37	0.	0.	10	0.	10	0.	12 100.	0.	53	0.	53	0.	10	0.	0.
71	7	50	0.	950. 37	0.	0.	45	0.	45	0.	37	0.	53	0.	53	0.	50	0.	300.
71	8	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	53	0.	53	0.	50	0.	200.
71	9	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
71	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
71	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	12 100.	0.	37	0.	10	0.	0.
71	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	12 750.	0.	12 100.	0.	49	0.	130. 10	0.	0.
72	1	14	4600.	700. 49	0.	9000.	11 3250.	0.	53	0.	59	0.	37	0.	37	0.	50	0.	500.
72	2	16	20.	700. 49	0.	11000.	30	0.	53	0.	59	0.	58	0.	58	0.	10	0.	0.
72	3	16	15.	700. 49	0.	13000.	30	0.	53	0.	12 400.	0.	12	0.	12	0.	50	0.	500.
72	4	16	5.	700. 49	0.	15000.	30	0.	10	0.	12 400.	0.	53	0.	53	0.	10	0.	0.
72	5	15	0.	700. 37	0.	0.	10	0.	10	0.	12 400.	0.	53	0.	53	0.	50	0.	500.
72	6	15	0.	700. 37	0.	0.	45	0.	45	0.	12 400.	0.	53	0.	53	0.	10	0.	0.
72	7	50	0.	950. 37	0.	0.	45	0.	45	0.	37	0.	53	0.	53	0.	50	0.	500.
72	8	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	53	0.	53	0.	10	0.	0.
72	9	50	0.	950. 37	0.	0.	45	0.	45	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
72	10	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	37	0.	37	0.	10	0.	0.
72	11	50	0.	950. 37	0.	0.	37	0.	12 3000.	0.	12 750.	0.	12 100.	0.	37	0.	10	0.	0.
72	12	50	0.	700. 37	0.	0.	37	0.	12 2500.	0.	12 750.	0.	12 100.	0.	49	0.	130. 10	0.	0.

UPPER LAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS. INCLUDES 1939 RIGHTS

WYR	MO	FCSPSN	FRCSH	SNAKE	SYSN H.FORK	RENT POOL	XCUT CANAL	GAIN MINDKA	USED BY BURLEY	TOTAL H.FORK XCUT SMSHRT
73	1	0.	0.	29216.	2066.	0.	0.	0.	0.	0.
73	2	0.	0.	30649.	2104.	0.	0.	0.	0.	0.
73	3	0.	0.	32016.	2263.	0.	0.	0.	0.	0.
73	4	0.	3905.	33772.	2331.	0.	0.	0.	0.	0.
73	5	0.	3462.	36769.	2333.	0.	0.	0.	0.	0.
73	6	0.	3127.	37810.	2334.	0.	0.	0.	0.	0.
73	7	0.	2813.	38611.	2335.	77611.	0.	0.	0.	0.
73	8	210.	2533.	39998.	2345.	108691.	0.	0.	184.	0.
73	9	300.	1486.	39847.	2345.	390147.	0.	0.	6345.	0.
73	10	0.	532.	33711.	2164.	376698.	0.	0.	9511.	0.
73	11	0.	0.	26930.	2051.	244367.	0.	0.	0.	0.
73	12	0.	0.	26917.	1924.	240390.	0.	0.	0.	0.
		510.	17858.	406244.	26593.	*****	0.	0.	16040.	0.
74	1	0.	0.	28061.	1943.	0.	0.	0.	0.	0.
74	2	0.	0.	29521.	1982.	0.	0.	0.	0.	0.
74	3	0.	0.	30922.	2117.	0.	0.	0.	0.	0.
74	4	0.	4501.	32743.	2182.	0.	0.	0.	0.	0.
74	5	0.	4315.	35653.	2235.	0.	0.	0.	0.	0.
74	6	0.	3981.	37092.	2329.	0.	0.	0.	0.	0.
74	7	870.	4393.	37779.	2337.	0.	0.	0.	0.	0.
74	8	1250.	3897.	38758.	2345.	0.	0.	0.	53.	-219.
74	9	940.	2522.	39202.	2345.	77611.	0.	0.	449.	-772.
74	10	0.	240.	38184.	2247.	393708.	0.	0.	1818.	0.
74	11	0.	0.	33938.	2112.	386080.	0.	0.	2796.	0.
74	12	0.	0.	31416.	1964.	266947.	0.	0.	5400.	0.
		3060.	23849.	413269.	26138.	*****	0.	0.	10517.	-991.
75	1	0.	0.	29369.	1973.	0.	0.	0.	0.	0.
75	2	0.	0.	30787.	2010.	0.	0.	0.	0.	0.
75	3	0.	0.	32169.	2159.	0.	0.	0.	0.	0.
75	4	0.	3668.	33918.	2302.	0.	0.	0.	0.	0.
75	5	0.	3447.	36864.	2329.	0.	0.	0.	0.	0.
75	6	0.	3463.	37856.	2331.	0.	0.	0.	0.	0.
75	7	40.	3565.	38603.	2332.	0.	0.	0.	0.	0.
75	8	1010.	3535.	38798.	2337.	0.	0.	0.	0.	0.
75	9	1190.	2896.	39053.	2345.	77611.	0.	0.	0.	0.
75	10	350.	1322.	38240.	2345.	393713.	0.	0.	2718.	0.
75	11	0.	0.	30921.	2253.	384383.	0.	0.	10.	0.
75	12	0.	0.	26713.	2132.	353887.	0.	0.	4600.	0.
		2590.	21896.	413289.	26847.	*****	0.	0.	7327.	0.

1-M

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/D SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	JACKSON LAKE				PALISADES				HEISE FLOW	HENRYS LAKE				ISLAND PARK				H. FORK ASHTON	GRASSY LAKE			
		INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM		OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO	INFLOW	EOM	OUTFLO
73	1	536.	5716.	501.	2935.	14000.	2906.	3581.	777.	0.	417.	0.	417.	0.	1157.	417.	962.	132.	132.	0.	0.	0.	0.
73	2	359.	5716.	359.	2162.	13400.	2762.	3048.	814.	0.	395.	0.	395.	0.	1157.	395.	944.	133.	133.	0.	0.	0.	0.
73	3	365.	5716.	365.	1951.	12800.	2551.	2791.	843.	20.	373.	20.	373.	20.	1284.	246.	784.	136.	136.	0.	0.	0.	0.
73	4	355.	6040.	31.	1538.	12200.	2138.	2372.	843.	25.	370.	25.	370.	25.	1350.	304.	808.	138.	138.	0.	0.	0.	0.
73	5	294.	6306.	28.	1318.	12363.	555.	730.	843.	22.	316.	22.	316.	22.	1350.	316.	765.	140.	140.	0.	0.	0.	0.
73	6	279.	6555.	31.	1369.	13717.	615.	844.	843.	41.	359.	41.	359.	41.	1350.	359.	861.	141.	141.	0.	0.	0.	0.
73	7	313.	6803.	30.	2074.	14000.	1759.	2310.	843.	18.	334.	18.	334.	18.	1350.	322.	933.	142.	142.	0.	0.	0.	0.
73	8	2045.	8345.	441.	6970.	13853.	7069.	8979.	843.	70.	758.	70.	758.	70.	1350.	736.	1983.	152.	152.	12.	12.	12.	12.
73	9	2600.	8293.	2550.	8635.	13775.	8646.	10516.	843.	40.	492.	40.	492.	40.	1350.	460.	1257.	152.	152.	25.	25.	25.	25.
73	10	844.	7182.	1845.	4973.	14000.	4671.	6807.	818.	0.	348.	0.	348.	0.	1194.	461.	1058.	152.	152.	5.	5.	5.	5.
73	11	402.	5635.	1845.	3735.	14000.	3663.	5548.	765.	61.	438.	61.	438.	61.	1134.	461.	1017.	152.	152.	0.	0.	0.	0.
73	12	397.	4483.	1488.	3367.	14000.	3321.	4364.	717.	60.	410.	60.	410.	60.	1077.	446.	983.	130.	130.	22.	22.	22.	22.
74	1	296.	4714.	31.	1720.	13847.	1845.	2139.	746.	0.	347.	0.	347.	0.	1066.	347.	886.	131.	131.	0.	0.	0.	0.
74	2	466.	4714.	466.	2167.	13278.	2736.	3045.	783.	0.	370.	0.	370.	0.	1066.	370.	894.	133.	133.	0.	0.	0.	0.
74	3	359.	4714.	359.	1790.	12708.	2359.	2599.	818.	0.	343.	0.	343.	0.	1164.	246.	756.	136.	136.	0.	0.	0.	0.
74	4	392.	5075.	31.	1396.	12139.	1965.	2183.	838.	0.	289.	0.	289.	0.	1207.	246.	759.	138.	138.	0.	0.	0.	0.
74	5	337.	5384.	28.	1185.	12768.	555.	767.	843.	18.	268.	18.	268.	18.	1252.	222.	706.	140.	140.	0.	0.	0.	0.
74	6	478.	5832.	31.	1526.	13680.	615.	899.	843.	34.	337.	34.	337.	34.	1344.	246.	799.	143.	143.	0.	0.	0.	0.
74	7	632.	6401.	29.	3583.	13478.	3753.	4291.	843.	60.	434.	60.	434.	60.	1350.	416.	1252.	144.	144.	0.	0.	0.	0.
74	8	2431.	8033.	737.	10374.	13125.	10680.	11798.	843.	40.	943.	40.	943.	40.	1350.	921.	2562.	152.	152.	7.	7.	7.	7.
74	9	6190.	8134.	5988.	20846.	13295.	20611.	21393.	843.	101.	837.	101.	837.	101.	1350.	805.	1832.	152.	152.	44.	44.	44.	44.
74	10	2081.	8258.	1845.	8188.	14000.	7407.	8108.	843.	15.	406.	15.	406.	15.	1252.	461.	1163.	152.	152.	12.	12.	12.	12.
74	11	759.	7065.	1845.	4574.	14000.	4502.	5077.	773.	61.	434.	61.	434.	61.	1187.	461.	1152.	152.	152.	6.	6.	6.	6.
74	12	356.	5869.	1488.	3394.	14000.	3348.	3762.	700.	60.	416.	60.	416.	60.	1135.	446.	1051.	130.	130.	21.	21.	21.	21.
75	1	14777.	74192.	12876.	60742.	160318.	60377.	66062.	9716.	389.	5424.	389.	5424.	389.	14722.	5188.	13813.	1700.	1700.	90.	90.	90.	90.
75	2	344.	5869.	308.	2135.	14000.	2107.	2760.	719.	0.	396.	0.	396.	0.	1124.	396.	1019.	130.	130.	0.	0.	0.	0.
75	3	266.	5869.	266.	1796.	13400.	2396.	2853.	755.	0.	317.	0.	317.	0.	1124.	317.	897.	131.	131.	0.	0.	0.	0.
75	4	364.	6202.	31.	1335.	12200.	1935.	2376.	819.	0.	355.	0.	355.	0.	1239.	246.	786.	132.	132.	0.	0.	0.	0.
75	5	346.	6520.	28.	1199.	12844.	555.	898.	843.	6.	305.	6.	305.	6.	1348.	246.	842.	135.	135.	0.	0.	0.	0.
75	6	338.	6827.	31.	1267.	13496.	615.	925.	843.	36.	381.	36.	381.	36.	1350.	303.	820.	136.	136.	0.	0.	0.	0.
75	7	363.	7127.	29.	1412.	13976.	900.	1083.	843.	25.	358.	25.	358.	25.	1350.	346.	875.	139.	139.	0.	0.	0.	0.
75	8	1123.	8105.	83.	4996.	13293.	5531.	6393.	843.	54.	725.	54.	725.	54.	1350.	703.	1867.	144.	144.	0.	0.	0.	0.
75	9	3920.	8071.	3852.	14615.	13108.	14735.	16255.	843.	88.	968.	88.	968.	88.	1350.	936.	2360.	152.	152.	22.	22.	22.	22.
75	10	2885.	8470.	2374.	11992.	14000.	11024.	11790.	843.	56.	559.	56.	559.	56.	1350.	515.	1275.	152.	152.	41.	41.	41.	41.
75	11	787.	7304.	1845.	5031.	14000.	4959.	5624.	778.	61.	474.	61.	474.	61.	1323.	461.	1143.	152.	152.	12.	12.	12.	12.
75	12	348.	6099.	1488.	3601.	14000.	3555.	4055.	716.	60.	432.	60.	432.	60.	1286.	446.	974.	130.	130.	23.	23.	23.	23.
75	12	11363.	82330.	10613.	51087.	161116.	50721.	57707.	9635.	386.	5631.	386.	5631.	386.	15543.	5297.	13755.	1669.	1669.	98.	98.	98.	98.





## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

		RIRIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	DIVRTD	PUMP	FLOW148		
73	1	57.	500.	456.	0.	110.	0.	457.	0.	15.	0.
73	2	48.	533.	15.	0.	13.	0.	15.	0.	15.	0.
73	3	48.	500.	81.	0.	0.	0.	81.	0.	15.	0.
73	4	47.	532.	15.	0.	0.	0.	15.	0.	15.	0.
73	5	44.	500.	76.	0.	0.	0.	76.	0.	15.	0.
73	6	54.	539.	15.	0.	0.	0.	15.	0.	15.	0.
73	7	284.	807.	15.	0.	0.	0.	15.	0.	15.	0.
73	8	414.	800.	420.	0.	183.	0.	420.	0.	15.	0.
73	9	112.	896.	15.	0.	462.	0.	15.	0.	15.	0.
73	10	53.	900.	48.	0.	615.	0.	48.	0.	15.	0.
73	11	29.	900.	28.	0.	507.	0.	28.	0.	15.	0.
73	12	33.	900.	32.	0.	324.	0.	32.	0.	15.	0.
74	1	37.	500.	436.	0.	113.	0.	437.	0.	15.	0.
74	2	44.	529.	15.	0.	23.	0.	15.	0.	15.	0.
74	3	31.	500.	60.	0.	0.	0.	60.	0.	15.	0.
74	4	44.	529.	15.	0.	0.	0.	15.	0.	15.	0.
74	5	36.	500.	65.	0.	0.	0.	65.	0.	15.	0.
74	6	96.	581.	15.	0.	0.	0.	15.	0.	15.	0.
74	7	426.	900.	106.	0.	0.	0.	106.	0.	15.	0.
74	8	537.	600.	836.	0.	260.	0.	836.	0.	15.	0.
74	9	189.	773.	15.	0.	485.	0.	15.	0.	15.	0.
74	10	42.	798.	15.	0.	607.	0.	15.	0.	15.	0.
74	11	16.	798.	15.	0.	535.	0.	15.	0.	15.	0.
74	12	21.	803.	15.	0.	525.	0.	15.	0.	15.	0.
75	1	29.	500.	332.	0.	172.	0.	331.	0.	15.	0.
75	2	33.	518.	15.	0.	23.	0.	15.	0.	15.	0.
75	3	27.	500.	45.	0.	0.	0.	45.	0.	15.	0.
75	4	32.	517.	15.	0.	0.	0.	15.	0.	15.	0.
75	5	29.	500.	46.	0.	0.	0.	46.	0.	15.	0.
75	6	48.	533.	15.	0.	0.	0.	15.	0.	15.	0.
75	7	66.	500.	98.	0.	0.	0.	98.	0.	15.	0.
75	8	578.	400.	677.	0.	49.	0.	677.	0.	15.	0.
75	9	490.	874.	15.	0.	489.	0.	15.	0.	15.	0.
75	10	144.	900.	117.	0.	673.	0.	117.	0.	15.	0.
75	11	59.	900.	58.	0.	584.	0.	58.	0.	15.	0.
75	12	32.	900.	31.	0.	439.	0.	31.	0.	15.	0.

WYR	MD	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES					HENRYS LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	ISLAND PARK						
73	1	14	4600.	700. 49	0. 9000. 11 3250.	0. 53	0. 59	0.	0. 37	0.	0. 10	0. 50	0. 500.
73	2	16	20. 700. 49	0. 11000. 30	0. 53	0. 59	0.	0. 58	0.	0. 10	0. 10	0. 10	0. 500.
73	3	16	15. 700. 49	0. 13000. 30	0. 53	0.	0. 12 400.	0. 12	0. 53	0.	0. 10	0. 10	0. 500.
73	4	16	5. 700. 49	0. 15000. 30	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 50	0. 500.
73	5	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
73	6	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
73	7	50	0. 950. 37	0. 0. 37	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 10	0. 10	0. 50	0. 800.
73	8	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 37	0. 37	0. 10	0. 500.
73	9	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 37	0.	0. 37	0. 37	0. 10	0. 500.
73	10	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
73	11	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
73	12	50	0. 700. 37	0. 0. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12	100.	0. 49	0. 130. 10	0. 10	0. 500.
74	1	16	20. 700. 49	0. 9000. 11 3250.	0. 10	0. 59	0.	0. 37	0.	0. 10	0. 10	0. 50	0. 500.
74	2	16	20. 700. 49	0. 11000. 30	0. 59	0. 59	0.	0. 58	0.	0. 10	0. 10	0. 50	0. 500.
74	3	16	10. 700. 49	0. 13000. 30	0. 59	0. 12 400.	0. 12 400.	0. 12	0.	0. 10	0. 10	0. 10	0. 500.
74	4	16	5. 700. 49	0. 15000. 30	0. 10	0. 12 400.	0. 12 400.	0. 12	0.	0. 10	0. 10	0. 50	0. 500.
74	5	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
74	6	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
74	7	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 10	0. 10	0. 50	0. 600.
74	8	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 37	0. 37	0. 10	0. 500.
74	9	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 37	0.	0. 37	0. 37	0. 10	0. 500.
74	10	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
74	11	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
74	12	50	0. 700. 37	0. 0. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12	100.	0. 49	0. 130. 10	0. 10	0. 500.
75	1	14	4600.	700. 49	0. 9000. 11 3250.	0. 53	0. 59	0.	0. 37	0.	0. 10	0. 50	0. 500.
75	2	16	20. 700. 49	0. 11000. 30	0. 53	0. 59	0.	0. 58	0.	0. 10	0. 10	0. 50	0. 500.
75	3	16	15. 700. 49	0. 13000. 30	0. 53	0.	0. 12 400.	0. 12	0.	0. 10	0. 10	0. 10	0. 500.
75	4	16	5. 700. 49	0. 15000. 30	0. 10	0. 12 400.	0. 12 400.	0. 12	0.	0. 10	0. 10	0. 50	0. 500.
75	5	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
75	6	15	0. 700. 37	0. 0. 10	0. 10	0. 12 400.	0. 12 400.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
75	7	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 10	0. 10	0. 50	0. 400.
75	8	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 53	0.	0. 10	0. 10	0. 10	0. 500.
75	9	50	0. 950. 37	0. 0. 45	0. 45	0. 45	0. 12 750.	0. 37	0.	0. 37	0. 37	0. 10	0. 500.
75	10	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
75	11	50	0. 950. 37	0. 0. 37	0. 37	0. 12 3000.	0. 12 750.	0. 12	100.	0. 37	0. 37	0. 10	0. 500.
75	12	50	0. 700. 37	0. 0. 37	0. 37	0. 12 2500.	0. 12 750.	0. 12	100.	0. 49	0. 130. 10	0. 10	0. 500.

UPPER SNAKE RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS					
WYR	MO	FCSPSN	FRCSTH	SYSYCON		RENT	XCUT	GAIN USED BY	TOTAL
				SNAKE	H.FORK				
76	1	0.	0.	27294.	2144.	0.	0.	0.	0.
76	2	0.	0.	30455.	2176.	0.	0.	0.	0.
76	3	0.	0.	32399.	2290.	0.	0.	0.	0.
76	4	0.	4793.	34156.	2328.	0.	0.	0.	0.
76	5	0.	4424.	37048.	2329.	0.	0.	0.	0.
76	6	0.	4401.	38032.	2331.	0.	0.	0.	0.
76	7	1050.	4648.	38435.	2332.	0.	0.	0.	0.
76	8	1550.	4401.	38257.	2343.	63497.	0.	0.	0.
76	9	1000.	2635.	38973.	2345.	378998.	0.	0.	101.
76	10	220.	1107.	35346.	2217.	374384.	0.	0.	126.
76	11	0.	0.	32920.	2089.	371997.	0.	0.	6.
76	12	0.	0.	33153.	1983.	368186.	0.	0.	0.
3820.				26409.	416468.	26906.	*****	0.	234.
77	1	0.	0.	28913.	1993.	0.	0.	0.	0.
77	2	0.	0.	30343.	2020.	0.	0.	0.	0.
77	3	0.	0.	31713.	2120.	0.	0.	0.	0.
77	4	0.	2580.	33356.	2204.	0.	0.	0.	0.
77	5	0.	1983.	36049.	2243.	0.	0.	0.	0.
77	6	0.	1354.	36828.	2297.	65074.	0.	0.	0.
77	7	0.	1164.	33777.	2333.	381633.	0.	0.	0.
77	8	0.	693.	28530.	2194.	381633.	0.	0.	0.
77	9	0.	559.	23966.	2345.	381622.	0.	0.	1698.
77	10	0.	43.	19104.	1543.	240268.	0.	0.	4456.
77	11	0.	0.	15397.	903.	33750.	0.	0.	2688.
77	12	0.	0.	13467.	856.	0.	0.	0.	0.
0.				8376.	331441.	23050.	*****	0.	8841.
78	1	0.	0.	16453.	864.	0.	0.	0.	0.
78	2	0.	0.	20144.	1004.	0.	0.	0.	0.
78	3	0.	0.	24176.	1036.	0.	0.	0.	0.
78	4	0.	4582.	27888.	1276.	0.	0.	0.	0.
78	5	0.	4768.	31078.	1482.	0.	0.	0.	0.
78	6	0.	4770.	32349.	1672.	0.	0.	0.	0.
78	7	620.	4137.	32749.	1806.	0.	0.	0.	0.
78	8	1090.	3657.	34560.	1890.	0.	0.	0.	0.
78	9	990.	2606.	37819.	1992.	10507.	0.	0.	257.
78	10	130.	903.	33049.	1332.	327065.	0.	0.	0.
78	11	0.	0.	25936.	676.	327065.	0.	0.	1100.
78	12	0.	0.	25461.	937.	322885.	0.	0.	0.
2830.				25423.	341661.	15968.	987522.	0.	1357.
								0.	-600.

UPPER SNA RIVER DIGITAL MODEL				1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS				1-M							
JACKSON LAKE		PALISADES		HEISE		HENRYS LAKE		ISLAND		PARK		H. FORK		GRASSY LAKE	
WYR	MO	INFLOW	EDM	OUTFLOW	INFLOW	EDM	OUTFLOW	INFLOW	SEEPAG	EDM	OUTFLOW	ASHTON	EDM	OUTFLOW	EDM
76	1	339.	6099.	303.	2298.	14000.	2270.	2749.	740.	0.	391.	0.	1274.	391.	916.
76	2	326.	6099.	326.	1965.	13400.	2565.	2898.	769.	0.	354.	0.	1274.	354.	904.
76	3	373.	6099.	373.	1934.	12800.	2534.	2899.	805.	0.	330.	0.	1350.	254.	866.
76	4	371.	6439.	31.	1387.	12200.	1987.	2309.	841.	0.	303.	0.	1350.	303.	892.
76	5	326.	6737.	29.	1187.	12812.	575.	871.	841.	27.	315.	0.	1350.	315.	795.
76	6	338.	7044.	31.	1241.	13438.	615.	944.	841.	27.	327.	0.	1350.	327.	836.
76	7	585.	7565.	29.	2716.	13370.	2752.	3052.	841.	41.	381.	0.	1350.	369.	935.
76	8	3159.	7942.	2719.	14103.	12915.	14511.	15934.	841.	57.	929.	0.	1350.	907.	2503.
76	9	4024.	8119.	3746.	13840.	13250.	13441.	14528.	843.	61.	579.	0.	1350.	547.	1327.
76	10	1687.	7850.	1845.	8244.	14000.	7418.	8055.	837.	0.	382.	0.	1228.	461.	1062.
76	11	709.	6608.	1845.	4871.	14000.	4799.	5317.	782.	61.	426.	0.	1156.	461.	1164.
76	12	356.	5413.	1488.	3607.	14000.	3561.	4056.	733.	60.	432.	0.	1120.	446.	1169.
		12593.	82014.	12764.	57392.	160185.	57028.	63622.	9715.	334.	5149.	0.	15501.	5136.	13370.
77	1	264.	5413.	229.	2082.	14000.	2054.	2506.	754.	0.	336.	0.	1109.	336.	926.
77	2	181.	5413.	181.	1667.	13400.	2267.	2537.	781.	0.	323.	0.	1109.	323.	815.
77	3	225.	5413.	225.	1567.	12800.	2167.	2379.	805.	0.	321.	0.	1184.	246.	725.
77	4	269.	5651.	31.	1268.	12200.	1868.	2005.	830.	0.	304.	0.	1242.	246.	733.
77	5	180.	5803.	28.	1101.	12746.	555.	808.	843.	2.	248.	0.	1268.	222.	688.
77	6	228.	6000.	31.	1177.	13308.	615.	844.	843.	25.	297.	0.	1319.	246.	747.
77	7	410.	6347.	30.	1519.	14000.	795.	895.	843.	26.	372.	0.	1350.	329.	691.
77	8	980.	5730.	1537.	3588.	13994.	3545.	3766.	843.	15.	331.	0.	1199.	461.	928.
77	9	1267.	5118.	1785.	4753.	14000.	4680.	5180.	843.	7.	289.	0.	1350.	107.	518.
77	10	400.	2960.	2460.	4046.	14000.	3969.	4558.	592.	212.	503.	0.	843.	976.	1399.
77	11	243.	658.	2460.	3748.	14000.	3676.	4128.	254.	331.	682.	0.	597.	904.	1690.
77	12	149.	0.	761.	1886.	12894.	2947.	3368.	189.	65.	356.	0.	650.	288.	899.
		4796.	54504.	9756.	28401.	161342.	29139.	32974.	8419.	682.	4361.	0.	13219.	4685.	10760.
78	1	262.	0.	262.	1426.	12448.	1845.	2803.	203.	0.	269.	0.	643.	269.	734.
78	2	213.	0.	213.	1289.	12696.	1041.	2054.	223.	0.	232.	0.	759.	116.	521.
78	3	400.	0.	400.	1626.	13400.	922.	2196.	256.	0.	239.	0.	752.	246.	667.
78	4	330.	299.	31.	1124.	13601.	922.	1961.	288.	0.	233.	0.	954.	31.	461.
78	5	352.	623.	28.	975.	13743.	833.	1651.	315.	0.	203.	0.	1129.	28.	418.
78	6	210.	803.	31.	1298.	14000.	1041.	1151.	350.	0.	213.	0.	1281.	61.	547.
78	7	510.	1258.	29.	3871.	13628.	4211.	5179.	407.	0.	375.	0.	1350.	295.	1126.
78	8	2246.	3423.	30.	8442.	13237.	8786.	13820.	462.	0.	725.	0.	1350.	703.	2002.
78	9	4117.	7417.	29.	11862.	13258.	11776.	18118.	544.	0.	469.	0.	1341.	446.	1115.
78	10	1967.	7430.	1845.	9946.	14000.	9128.	11116.	595.	0.	338.	0.	612.	1030.	1562.
78	11	678.	6158.	1845.	5276.	14000.	5204.	4354.	542.	61.	395.	0.	134.	854.	1396.
78	12	432.	5039.	1488.	3893.	14000.	3847.	3912.	576.	0.	316.	0.	361.	83.	614.
		11717.	32449.	6229.	51027.	162011.	49557.	68316.	4761.	61.	4007.	0.	10667.	4161.	11162.
															135.

[illegible]

		RIRIE					PUMP FLOW148				
		INFLOW	EOM	OUTFLO	DIVRTD	DIVRTD	PUMP	FLOW			
76	1	33.	500.	432.	0.	294.	0.	433.			
76	2	35.	520.	15.	0.	23.	0.	15.			
76	3	5.	500.	25.	0.	0.	0.	25.			
76	4	32.	517.	15.	0.	0.	0.	15.			
76	5	37.	500.	54.	0.	0.	0.	54.			
76	6	66.	551.	15.	0.	0.	0.	15.			
76	7	306.	500.	356.	0.	0.	0.	356.			
76	8	894.	400.	993.	0.	118.	0.	993.			
76	9	220.	604.	15.	0.	480.	0.	15.			
76	10	75.	663.	15.	0.	595.	0.	15.			
76	11	37.	683.	15.	0.	417.	0.	16.			
76	12	13.	680.	15.	0.	318.	0.	15.			
77	1	63.	500.	243.	0.	92.	0.	243.			
77	2	45.	530.	15.	0.	13.	0.	15.			
77	3	23.	500.	53.	0.	0.	0.	53.			
77	4	21.	506.	15.	0.	0.	0.	15.			
77	5	26.	500.	32.	0.	0.	0.	32.			
77	6	35.	520.	15.	0.	0.	0.	15.			
77	7	87.	591.	15.	0.	0.	0.	15.			
77	8	42.	617.	15.	0.	188.	0.	15.			
77	9	15.	616.	15.	0.	286.	0.	15.			
77	10	1.	601.	15.	0.	367.	0.	16.			
77	11	0.	584.	15.	0.	308.	0.	15.			
77	12	5.	573.	15.	0.	171.	0.	15.			
78	1	9.	567.	15.	0.	122.	0.	15.			
78	2	16.	500.	83.	0.	5.	0.	83.			
78	3	36.	521.	15.	0.	0.	0.	15.			
78	4	20.	500.	41.	0.	0.	0.	41.			
78	5	18.	504.	14.	0.	0.	0.	14.			
78	6	58.	547.	15.	0.	0.	0.	15.			
78	7	332.	863.	15.	0.	0.	0.	15.			
78	8	325.	900.	287.	0.	67.	0.	287.			
78	9	105.	900.	104.	0.	491.	0.	104.			
78	10	12.	895.	15.	0.	656.	0.	15.			
78	11	0.	879.	15.	0.	526.	0.	15.			
78	12	15.	878.	15.	0.	288.	0.	15.			

## UPPER SNAKE RIVER DIGITAL MODEL 1928-78 W/O SALMON FALLS, INCLUDES 1939 RIGHTS

WYR	MO	LAKE	WALCOTT	AMERICAN FALLS	PALISADES	OPCODES				ISLAND PARK	HENRY'S LAKE	GRASSY LAKE	RIRIE
						JACKSON LAKE	PALISADES	AMERICAN FALLS	ISLAND PARK				
76	1	16	20.	700.	37	0.	0.	11 3250.	0. 53	0.	0. 59	0.	0. 50.
76	2	16	20.	700.	37	0.	0.	30	0. 53	0.	0. 59	0.	0. 50.
76	3	16	15.	700.	49	0.	0.	13000.	0. 53	0.	0. 12 400.	0.	0. 500.
76	4	16	5.	700.	49	0.	0.	15000.	0. 10	0.	0. 12 400.	0.	0. 500.
76	5	15	0.	700.	37	0.	0.	0.	0. 10	0.	0. 12 400.	0.	0. 500.
76	6	15	0.	700.	37	0.	0.	0.	0. 10	0.	0. 12 400.	0.	0. 500.
76	7	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 37	0.	0. 400.
76	8	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 12 750.	0.	0. 500.
76	9	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 12 750.	0.	0. 500.
76	10	50	0.	950.	37	0.	0.	37	0. 12 3000.	0.	0. 37	0.	0. 500.
76	11	50	0.	950.	37	0.	0.	37	0. 12 3000.	0.	0. 12 100.	0.	0. 500.
76	12	50	0.	700.	37	0.	0.	37	0. 12 2500.	0.	0. 12 100.	0.	0. 500.
77	1	14	4600.	700.	49	0.	0.	9000.	0. 53	0.	0. 59	0.	0. 500.
77	2	16	20.	700.	49	0.	0.	11000.	0. 53	0.	0. 59	0.	0. 500.
77	3	16	15.	700.	49	0.	0.	13000.	0. 53	0.	0. 12 400.	0.	0. 500.
77	4	16	5.	700.	49	0.	0.	15000.	0. 10	0.	0. 12 400.	0.	0. 500.
77	5	15	0.	700.	37	0.	0.	0.	0. 10	0.	0. 12 400.	0.	0. 500.
77	6	15	0.	700.	37	0.	0.	0.	0. 10	0.	0. 12 400.	0.	0. 500.
77	7	50	0.	950.	37	0.	0.	10	0. 10	0.	0. 37	0.	0. 500.
77	8	50	0.	950.	37	0.	0.	37	0. 12 2500.	0.	0. 12 750.	0.	0. 500.
77	9	50	0.	950.	37	0.	0.	37	0. 12 3000.	0.	0. 37	0.	0. 500.
77	10	50	0.	950.	37	0.	0.	37	0. 12 4000.	0.	0. 37	0.	0. 500.
77	11	50	0.	950.	37	0.	0.	37	0. 12 4000.	0.	0. 12 100.	0.	0. 500.
77	12	50	0.	700.	37	0.	0.	37	0. 12 2500.	0.	0. 37	0.	0. 500.
78	1	50	0.	700.	37	0.	0.	11 3250.	0. 59	0.	0. 59	0.	0. 500.
78	2	16	5.	700.	37	0.	0.	11 2250.	0. 59	0.	0. 58	0.	0. 500.
78	3	16	5.	700.	37	0.	0.	11 2250.	0. 59	0.	0. 12 400.	0.	0. 500.
78	4	15	0.	700.	37	0.	0.	12 1500.	0. 10	0.	0. 12 50.	0.	0. 500.
78	5	15	0.	700.	37	0.	0.	11 2750.	0. 10	0.	0. 12 50.	0.	0. 500.
78	6	15	0.	700.	37	0.	0.	10	0. 10	0.	0. 12 100.	0.	0. 500.
78	7	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 37	0.	0. 500.
78	8	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 12 750.	0.	0. 500.
78	9	50	0.	950.	37	0.	0.	45	0. 45	0.	0. 12 750.	0.	0. 500.
78	10	50	0.	950.	37	0.	0.	37	0. 12 3000.	0.	0. 37	0.	0. 500.
78	11	50	0.	950.	37	0.	0.	37	0. 12 3000.	0.	0. 12 100.	0.	0. 500.
78	12	50	0.	700.	37	0.	0.	37	0. 12 2500.	0.	0. 37	0.	0. 500.



Table 29.--Column Description,  
North Side Pumping Division Operation Study

Column	Description
IRRIGATION DEMAND	The irrigation demand is the amount of water, exclusive of precipitation, required for crop production, including losses in application, distribution, and operation of the system. This value represents the combined irrigation demands of the existing Unit A lands (82 percent) and the proposed new Unit A lands (18 percent).
IRRIGATION SHORTAGE	This irrigation shortage equals the irrigation demand minus the water supply (combination of natural flow and storage). The irrigation shortages experienced by the district are voluntary in nature, noting all canal companies in the upper Snake River were assigned voluntary shortages in 1934, 1935, and 1977. These shortages were implemented in an attempt to maximize water use and carryover storage; however, for the A&B Irrigation District, they had sufficient storage in 1934, 1935, and 1977, and had the voluntary shortages not been implemented, they would not have experienced irrigation shortages during the 51-year period examined.
WATER SUPPLY	The order of water use for the operation study was (1) natural flow, (2) American Falls storage, and (3) Palisades storage.
Natural flow	The portion of the irrigation supply delivered to the project lands (existing plus new) under the district's 1939 natural flow right.
Storage	The portion of the irrigation supply delivered to the project lands (existing plus new) under the district's storage rights.
A&B STORAGE (EOM)	The end-of-month content (EOM) in American Falls and in Palisades Reservoirs

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&B STORAGE (EOM)	
					+ NATURAL + FLOW	STORAGE WATER	+ AMERICAN + FALLS RES	PALISADE RESERVOIR
		ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE FEET
								ACRE FEET
1927	OCT	2230	0		2230	0		12676
1927	NOV	0	0		0	0		12676
1927	DEC	0	0		0	0		12676
1928	JAN	0	0		0	0		12676
1928	FEB	0	0		0	0		12676
1928	MAR	0	0		0	0		12676
1928	APR	1110	0		1110	0		12676
1928	MAY	10070	0		10070	0		12676
1928	JUN	13630	0		13630	0		12676
1928	JUL	18620	0		12707	5913		40913
1928	AUG	15400	0		0	15400		25513
1928	SEP	7600	0		0	7600		17913
1928	TOTAL	68660	0		39747	28913		
1928	OCT	2050	0		2050	0		14503
1928	NOV	0	0		0	0		14503
1928	DEC	0	0		0	0		14503
1929	JAN	0	0		0	0		14503
1929	FEB	0	0		0	0		14503
1929	MAR	0	0		0	0		14503
1929	APR	650	0		650	0		14503
1929	MAY	9750	0		9750	0		14503
1929	JUN	13300	0		13300	0		46826
1929	JUL	18620	0		3169	15451		31375
1929	AUG	15610	0		0	15610		15765
1929	SEP	7080	0		2050	5030		10734
1929	TOTAL	67060	0		30969	36091		
1929	OCT	1900	0		1900	0		10100
1929	NOV	0	0		0	0		10100
1929	DEC	0	0		0	0		10100
1930	JAN	0	0		0	0		10100
1930	FEB	0	0		0	0		10100
1930	MAR	0	0		0	0		10100
1930	APR	2430	0		2430	0		10100
1930	MAY	7850	0		7850	0		46826
1930	JUN	12120	0		4226	7894		38932
1930	JUL	18950	0		0	18950		19982
1930	AUG	13550	0		0	13550		6432
1930	SEP	6580	0		0	6580		0
1930	TOTAL	63380	0		16406	46974		

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION	IRRIGATION	+ WATER SUPPLY		+ A&B STORAGE (EDM)	
		DEMAND	SHORTAGE				
				+ NATURAL + FLOW	STORAGE + WATER	+ AMERICAN + FALLS RES	PALISADE RESERVOIR
		ACRE	FEET	+ AC. FT.	AC. FT.	+ ACRE FEET	ACRE FEE
1930	OCT	1820	0	1820	0	0	78194
1930	NOV	0	0	0	0	0	78194
1930	DEC	0	0	0	0	0	78194
1931	JAN	0	0	0	0	0	78194
1931	FEB	0	0	0	0	0	78194
1931	MAR	0	0	0	0	0	78194
1931	APR	1380	0	1380	0	46326	32089
1931	MAY	9910	0	7404	2506	44320	32089
1931	JUN	11860	0	0	11860	32460	32089
1931	JUL	17340	0	0	17340	15120	32089
1931	AUG	14320	0	0	14320	800	32089
1931	SEP	5860	0	0	5860	0	54878
1931	TOTAL	62490	0	10604	51886		
1931	OCT	1600	0	1600	0	131	60341
1931	NOV	0	0	0	0	131	60341
1931	DEC	0	0	0	0	131	60341
1932	JAN	0	0	0	0	131	60341
1932	FEB	0	0	0	0	131	60341
1932	MAR	0	0	0	0	131	60341
1932	APR	860	0	860	0	131	60341
1932	MAY	7910	0	7910	0	131	60341
1932	JUN	10540	0	10540	0	131	32089
1932	JUL	17930	0	3169	14761	32065	32089
1932	AUG	15740	0	0	15740	16325	32089
1932	SEP	8760	0	0	8760	7565	89541
1932	TOTAL	63340	0	24079	39261		
1932	OCT	2040	0	2040	0	7187	85068
1932	NOV	0	0	0	0	7187	85068
1932	DEC	0	0	0	0	7187	85068
1933	JAN	0	0	0	0	7187	85068
1933	FEB	0	0	0	0	7187	85068
1933	MAR	0	0	0	0	7187	85068
1933	APR	1530	0	1530	0	7187	85068
1933	MAY	10070	0	10070	0	7187	85068
1933	JUN	13230	0	13230	0	46826	32089
1933	JUL	13440	0	0	18440	28386	32089
1933	AUG	15740	0	0	15740	12646	32089
1933	SEP	8190	0	0	8190	4456	83472
1933	TOTAL	69240	0	26870	42370		

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&S STORAGE (EDM)				
				+	NATURAL FLOW	+	STORAGE WATER	+	AMERICAN FALLS RES	PALISADE RESERVOIR	
		ACRE	FEET	ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE FEET	ACRE FEET
1933	OCT	2180		0		2180		0		4784	89372
1933	NOV	0		0		0		0		4784	89372
1933	DEC	0		0		0		0		4784	89372
1934	JAN	0		0		0		0		4784	89372
1934	FEB	0		0		0		0		4784	89372
1934	MAR	0		0		0		0		4784	89372
1934	APR	2340		0		2340		0		42131	32089
1934	MAY	8529		-2558		0		5971		36160	32089
1934	JUN	10139		-3041		0		7098		29062	32089
1934	JUL	14799		-4439		0		10360		18702	32089
1934	AUG	13479		-4043		0		9436		9266	32039
1934	SEP	6270		0		0		6270		2996	70477
1934	TOTAL	57736		-14081		4520		39135			
1934	OCT	2230		0		2230		0		2994	70419
1934	NOV	0		0		0		0		2994	70419
1934	DEC	0		0		0		0		2994	70419
1935	JAN	0		0		0		0		2994	70419
1935	FEB	0		0		0		0		2994	70419
1935	MAR	0		0		0		0		2994	70419
1935	APR	650		0		650		0		2994	70419
1935	MAY	8500		0		8500		0		2994	70419
1935	JUN	11739		-1126		10613		0		46526	32089
1935	JUL	17059		-9382		0		7677		39149	32089
1935	AUG	14810		-8145		0		6665		32485	32089
1935	SEP	8020		0		0		8020		24465	71395
1935	TOTAL	63008		-18653		21993		22362			
1935	OCT	2040		0		2040		0		19879	58014
1935	NOV	0		0		0		0		19879	58014
1935	DEC	0		0		0		0		19879	58014
1936	JAN	0		0		0		0		19879	58014
1936	FEB	0		0		0		0		19879	58014
1936	MAR	0		0		0		0		19879	58014
1936	APR	980		0		980		0		19879	58014
1936	MAY	10650		0		10650		0		19879	58014
1936	JUN	12830		0		12830		0		46526	32089
1936	JUL	18540		0		0		18540		28286	32039
1936	AUG	15450		0		0		15450		12336	32039
1936	SEP	7170		0		0		7170		5666	82996
1936	TOTAL	67660		0		26500		41160			

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&B STORAGE (EOM)		
					+ NATURAL + FLOW	STORAGE WATER	+ AMERICAN + FALLS RES	PALISADE RESERVOIR	
		ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE FEET	ACRE FEE
1936	OCT	2190	0		2190	0		5823	86230
1936	NOV	0	0		0	0		5823	86230
1936	DEC	0	0		0	0		5823	86230
1937	JAN	0	0		0	0		5823	86230
1937	FEB	0	0		0	0		5823	86230
1937	MAR	0	0		0	0		5823	86230
1937	APR	1030	0		1030	0		5823	86230
1937	MAY	9750	0		9750	0		5823	86230
1937	JUN	11800	0		6355	5445		41381	32089
1937	JUL	18380	0		0	18380		23001	32089
1937	AUG	15250	0		0	15250		7751	32089
1937	SEP	7300	0		0	7300		451	83691
1937	TOTAL	65700	0		19325	46375			
1937	OCT	1990	0		1990	0		447	82884
1937	NOV	0	0		0	0		447	82884
1937	DEC	0	0		0	0		447	82884
1938	JAN	0	0		0	0		447	82884
1938	FEB	0	0		0	0		447	82884
1938	MAR	0	0		0	0		447	82884
1938	APR	990	0		990	0		447	82884
1938	MAY	9520	0		9520	0		447	82884
1938	JUN	12290	0		12290	0		447	82884
1938	JUL	16780	0		5828	10952		35374	32089
1938	AUG	15180	0		0	15180		20694	32089
1938	SEP	8440	0		0	8440		12254	89771
1938	TOTAL	65190	0		30618	34572			
1938	OCT	1800	0		1800	0		12212	89463
1938	NOV	0	0		0	0		12212	89463
1938	DEC	0	0		0	0		12212	89463
1939	JAN	0	0		0	0		12212	89463
1939	FEB	0	0		0	0		12212	89463
1939	MAR	0	0		0	0		12212	89463
1939	APR	2270	0		2270	0		12212	89463
1939	MAY	10600	0		10600	0		46826	32089
1939	JUN	12870	0		0	12870		33956	32089
1939	JUL	18180	0		0	18180		15776	32089
1939	AUG	15570	0		0	15570		206	32089
1939	SEP	7620	0		0	7620		0	78773
1939	TOTAL	68910	0		14670	54240			

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&B STORAGE (EDM)	
				+	NATURAL FLOW	STORAGE WATER	+	AMERICAN FALLS RES PALISADE RESERVOIR
		ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE FEET
1939	OCT	1390	0		1390	0		161 90800
1939	NOV	0	0		0	0		161 90800
1939	DEC	0	0		0	0		161 90800
1940	JAN	0	0		0	0		161 90800
1940	FEB	0	0		0	0		161 90800
1940	MAR	0	0		0	0		161 90800
1940	APR	1270	0		1270	0		161 90800
1940	MAY	9770	0		3169	6601		40225 32089
1940	JUN	13250	0		0	13250		26975 32089
1940	JUL	18620	0		0	18620		8355 32089
1940	AUG	15530	0		0	15530		0 23963
1940	SEP	6370	0		5815	555		0 76573
1940	TOTAL	66200	0		11644	54556		
1940	OCT	1190	0		1190	0		89 82736
1940	NOV	0	0		0	0		89 82736
1940	DEC	0	0		0	0		89 82736
1941	JAN	0	0		0	0		89 82736
1941	FEB	0	0		0	0		89 82736
1941	MAR	0	0		0	0		89 82736
1941	APR	1820	0		1820	0		89 82736
1941	MAY	9890	0		0	9890		89 82736
1941	JUN	11450	0		0	11450		25486 32089
1941	JUL	17670	0		0	17670		7316 32089
1941	AUG	15110	0		0	15110		0 23829
1941	SEP	6960	0		3178	3782		0 74923
1941	TOTAL	64090	0		6188	57902		
1941	OCT	1460	0		1460	0		0 69850
1941	NOV	0	0		0	0		0 69850
1941	DEC	0	0		0	0		0 69850
1942	JAN	0	0		0	0		0 69850
1942	FEB	0	0		0	0		0 69850
1942	MAR	0	0		0	0		0 69850
1942	APR	1490	0		1490	0		0 69850
1942	MAY	8950	0		8950	0		0 69850
1942	JUN	11630	0		1589	10041		36785 32089
1942	JUL	17930	0		0	17930		18855 32089
1942	AUG	15280	0		0	15280		3575 32089
1942	SEP	7550	0		0	7550		0 84633
1942	TOTAL	64290	0		13489	50801		

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL STORAGE + FLOW	AMERICAN FALLS RES	PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	AC. FT.	AC. FT.	ACRE FEET
1942	OCT	1720	0	1720	0	81489
1942	NOV	0	0	0	0	81489
1942	DEC	0	0	0	0	81489
1943	JAN	0	0	0	0	81489
1943	FEB	0	0	0	0	81489
1943	MAR	0	0	0	0	81489
1943	APR	1760	0	1760	0	81489
1943	MAY	10240	0	10240	0	81489
1943	JUN	10910	0	10910	0	81489
1943	JUL	18080	0	10589	7491	32089
1943	AUG	15620	0	0	15620	32089
1943	SEP	7890	0	2113	5777	89874
1943 TOTAL		66220	0	37332	28888	
1943	OCT	1810	0	1810	0	90286
1943	NOV	0	0	0	0	90286
1943	DEC	0	0	0	0	90286
1944	JAN	0	0	0	0	90286
1944	FEB	0	0	0	0	90286
1944	MAR	0	0	0	0	90286
1944	APR	970	0	970	0	90286
1944	MAY	8150	0	7404	746	90286
1944	JUN	9770	0	0	9770	90286
1944	JUL	17910	0	0	17910	32089
1944	AUG	15370	0	0	15370	32089
1944	SEP	8130	0	5799	2331	89702
1944 TOTAL		62110	0	15983	46127	
1944	OCT	1870	0	1870	0	81101
1944	NOV	0	0	0	0	81101
1944	DEC	0	0	0	0	81101
1945	JAN	0	0	0	0	81101
1945	FEB	0	0	0	0	81101
1945	MAR	0	0	0	0	81101
1945	APR	950	0	950	0	81101
1945	MAY	9420	0	9420	0	81101
1945	JUN	11500	0	11500	0	81101
1945	JUL	13080	0	5828	12252	32089
1945	AUG	15340	0	0	15340	32089
1945	SEP	7910	0	0	7910	90786
1945 TOTAL		65070	0	29568	35502	



DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+ WATER SUPPLY + NATURAL + FLOW	+ STORAGE + AMERICAN + FALLS RES	+ A&B STORAGE (EOM) PALISADE RESERVOIR					
		ACRE	FEET	ACRE	FEET	+ AC. FT.	AC. FT.	+ ACRE	FEET	ACRE	FEET
1945	OCT	1390	0	1390	0	10515	84296				
1945	NOV	0	0	0	0	10515	84296				
1945	DEC	0	0	0	0	10515	84296				
1946	JAN	0	0	0	0	10515	84296				
1946	FEB	0	0	0	0	10515	84296				
1946	MAR	0	0	0	0	10515	84296				
1946	APR	1390	0	1390	0	10515	84296				
1946	MAY	10310	0	10310	0	10515	84296				
1946	JUN	12740	0	12740	0	10515	84296				
1946	JUL	18030	0	1592	16438	30388	32089				
1946	AUG	15310	0	0	15310	15078	32089				
1946	SEP	6740	0	4766	1974	13105	90696				
1946 TOTAL		65910	0	32188	33722						
1946	OCT	1360	0	1360	0	12120	83880				
1946	NOV	0	0	0	0	12120	83880				
1946	DEC	0	0	0	0	12120	83880				
1947	JAN	0	0	0	0	12120	83880				
1947	FEB	0	0	0	0	12120	83880				
1947	MAR	0	0	0	0	12120	83880				
1947	APR	1650	0	1650	0	12120	83880				
1947	MAY	10800	0	10800	0	12120	83880				
1947	JUN	11230	0	11230	0	12120	83880				
1947	JUL	18650	0	1067	17583	29243	32089				
1947	AUG	15550	0	0	15550	13693	32089				
1947	SEP	7130	0	6133	997	12696	90506				
1947 TOTAL		66370	0	32240	34130						
1947	OCT	1440	0	1440	0	11327	80749				
1947	NOV	0	0	0	0	11327	80749				
1947	DEC	0	0	0	0	11327	80749				
1948	JAN	0	0	0	0	11327	80749				
1948	FEB	0	0	0	0	11327	80749				
1948	MAR	0	0	0	0	11327	80749				
1948	APR	1530	0	1530	0	11327	80749				
1948	MAY	10320	0	10320	0	11327	80749				
1948	JUN	12810	0	12810	0	11327	80749				
1948	JUL	18200	0	3710	14490	32336	32089				
1948	AUG	15730	0	0	15730	16606	32089				
1948	SEP	7610	0	6355	1255	15352	90531				
1948 TOTAL		67640	0	36165	31475						

## UPPER SNAKE RIVER DIGITAL MODEL

## 1928-78 MINIDOKA NORTH SIDE EXTENSION

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&S STORAGE (EDM)		
				+	NATURAL FLOW	STORAGE WATER	+	AMERICAN FALLS RES	PALISADE RESERVOIR
		ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE	FEET
1948	OCT	1170	0		1170	0		13045	76931
1948	NOV	0	0		0	0		13045	76931
1948	DEC	0	0		0	0		13045	76931
1949	JAN	0	0		0	0		13045	76931
1949	FEB	0	0		0	0		13045	76931
1949	MAR	0	0		0	0		13045	76931
1949	APR	1550	0		1550	0		13045	76931
1949	MAY	10760	0		10760	0		13045	76931
1949	JUN	12700	0		12700	0		46826	32089
1949	JUL	18570	0		0	18570		28256	32089
1949	AUG	15350	0		0	15350		12906	32089
1949	SEP	7310	0		0	7310		5596	90421
1949	TOTAL	67410	0		26180	41230			
1949	OCT	1390	0		1390	0		5302	85672
1949	NOV	0	0		0	0		5302	85672
1949	DEC	0	0		0	0		5302	85672
1950	JAN	0	0		0	0		5302	85672
1950	FEB	0	0		0	0		5302	85672
1950	MAR	0	0		0	0		5302	85672
1950	APR	1220	0		1220	0		5302	85672
1950	MAY	9930	0		9930	0		5302	85672
1950	JUN	13250	0		13250	0		5302	85672
1950	JUL	18770	0		9522	9248		37578	32089
1950	AUG	15470	0		0	15470		22108	32089
1950	SEP	8320	0		0	8320		13788	90796
1950	TOTAL	68350	0		35312	33038			
1950	OCT	1680	0		1680	0		13776	90719
1950	NOV	0	0		0	0		13776	90719
1950	DEC	0	0		0	0		13776	90719
1951	JAN	0	0		0	0		13776	90719
1951	FEB	0	0		0	0		13776	90719
1951	MAR	0	0		0	0		13776	90719
1951	APR	1540	0		1540	0		13776	90719
1951	MAY	9650	0		9650	0		13776	90719
1951	JUN	13200	0		13200	0		13776	90719
1951	JUL	18740	0		5286	13454		33372	32089
1951	AUG	14870	0		0	14870		18502	32089
1951	SEP	8490	0		0	8490		10012	90444
1951	TOTAL	68170	0		31356	36814			

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL STORAGE + FLOW	AMERICAN FALLS RES	PALISADE RESERVOIR
ACRE	FEET	ACRE	FEET	AC. FT.	AC. FT.	ACRE FEET
1951	OCT	2020	0	2020	0	9300
1951	NOV	0	0	0	0	9300
1951	DEC	0	0	0	0	9300
1952	JAN	0	0	0	0	9300
1952	FEB	0	0	0	0	9300
1952	MAR	0	0	0	0	9300
1952	APR	1050	0	1050	0	9300
1952	MAY	10960	0	10960	0	9300
1952	JUN	13940	0	13940	0	9300
1952	JUL	19190	0	5286	13904	32922
1952	AUG	16210	0	0	16210	16712
1952	SEP	8730	0	0	8730	7982
1952	TOTAL	72100	0	33256	38844	
1952	OCT	2290	0	2290	0	7415
1952	NOV	0	0	0	0	7415
1952	DEC	0	0	0	0	7415
1953	JAN	0	0	0	0	7415
1953	FEB	0	0	0	0	7415
1953	MAR	0	0	0	0	7415
1953	APR	1870	0	1870	0	7415
1953	MAY	10430	0	7404	3026	7415
1953	JUN	12130	0	12130	0	7415
1953	JUL	19230	0	0	19230	24570
1953	AUG	15840	0	0	15840	8730
1953	SEP	8450	0	0	8450	280
1953	TOTAL	70240	0	23694	46546	
1953	OCT	1960	0	1960	0	255
1953	NOV	0	0	0	0	255
1953	DEC	0	0	0	0	255
1954	JAN	0	0	0	0	255
1954	FEB	0	0	0	0	255
1954	MAR	0	0	0	0	255
1954	APR	1940	0	1940	0	255
1954	MAY	11130	0	11130	0	255
1954	JUN	12320	0	12320	0	255
1954	JUL	13540	0	4761	13779	33047
1954	AUG	15610	0	0	15610	17437
1954	SEP	8280	0	0	8280	9157
1954	TOTAL	69730	0	32111	37669	

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL STORAGE + FLOW	A&B STORAGE (EDM) + AMERICAN FALLS RES	PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	AC. FT.	AC. FT.	ACRE FEET
1954	OCT	1640	0	1640	0	83635
1954	NOV	0	0	0	0	83635
1954	DEC	0	0	0	0	83635
1955	JAN	0	0	0	0	83635
1955	FEB	0	0	0	0	83635
1955	MAR	0	0	0	0	83635
1955	APR	720	0	720	0	83635
1955	MAY	9550	0	9550	0	83635
1955	JUN	13360	0	12154	1206	32089
1955	JUL	18580	0	0	18580	32089
1955	AUG	15910	0	0	15910	32089
1955	SEP	8600	0	1589	7011	89896
1955	TOTAL	68360	0	25653	42707	
1955	OCT	1490	0	1490	0	81989
1955	NOV	0	0	0	0	81989
1955	DEC	0	0	0	0	81989
1956	JAN	0	0	0	0	81989
1956	FEB	0	0	0	0	81989
1956	MAR	0	0	0	0	81989
1956	APR	1870	0	1870	0	81989
1956	MAY	10570	0	10570	0	81989
1956	JUN	13010	0	13010	0	81989
1956	JUL	19020	0	0	19020	32089
1956	AUG	15020	0	0	15020	32089
1956	SEP	7820	0	1064	6756	89906
1956	TOTAL	68800	0	28004	40796	
1956	OCT	1460	0	1460	0	79890
1956	NOV	0	0	0	0	79890
1956	DEC	0	0	0	0	79890
1957	JAN	0	0	0	0	79890
1957	FEB	0	0	0	0	79890
1957	MAR	0	0	0	0	79890
1957	APR	1100	0	1100	0	79890
1957	MAY	9820	0	9820	0	79890
1957	JUN	12930	0	12930	0	79890
1957	JUL	19070	0	4236	14334	32089
1957	AUG	15360	0	0	15360	32089
1957	SEP	7970	0	0	7970	90236
1957	TOTAL	67710	0	29546	38164	

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL + FLOW	STORAGE + AMERICAN + FALLS RES	A&B STORAGE (EOM) PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	AC. FT.	AC. FT.	ACRE FEET
1957	OCT	1390	0	1390	0	84535
1957	NOV	0	0	0	0	84535
1957	DEC	0	0	0	0	84535
1958	JAN	0	0	0	0	84535
1958	FEB	0	0	0	0	84535
1958	MAR	0	0	0	0	84535
1958	APR	1530	0	1530	0	84535
1958	MAY	10650	0	10650	0	84535
1958	JUN	12940	0	6355	6585	32089
1958	JUL	19040	0	0	19040	32089
1958	AUG	15180	0	0	15180	32089
1958	SEP	7280	0	1589	5691	83941
1958	TOTAL	68010	0	21514	46496	
1958	OCT	2010	0	2010	0	85339
1958	NOV	0	0	0	0	85339
1958	DEC	0	0	0	0	85339
1959	JAN	0	0	0	0	85339
1959	FEB	0	0	0	0	85339
1959	MAR	0	0	0	0	85339
1959	APR	2130	0	2130	0	32089
1959	MAY	9450	0	9450	0	32089
1959	JUN	12500	0	12500	0	32089
1959	JUL	18770	0	4236	14534	32089
1959	AUG	15020	0	0	15020	32089
1959	SEP	6470	0	3178	3292	88476
1959	TOTAL	66350	0	33504	32846	
1959	OCT	970	0	970	0	74985
1959	NOV	0	0	0	0	74985
1959	DEC	0	0	0	0	74985
1960	JAN	0	0	0	0	74985
1960	FEB	0	0	0	0	74985
1960	MAR	0	0	0	0	74985
1960	APR	1710	0	1710	0	32089
1960	MAY	10590	0	0	10590	32089
1960	JUN	13230	0	0	13230	32089
1960	JUL	19230	0	0	19230	32089
1960	AUG	15150	0	0	15150	19208
1960	SEP	8070	0	0	8070	51448
1960	TOTAL	68950	0	2680	56270	

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+	WATER SUPPLY	+	A&B STORAGE (EDM)						
				+	NATURAL	STORAGE	+	AMERICAN	PALISADE				
				+	FLOW	WATER	+	FALLS RES	RESERVOIR				
		ACRE	FEET	ACRE	FEET	+	AC. FT.	AC. FT.	+	ACRE	FEET	ACRE	FEET
1960	OCT	1800	0		1800		0		0			41332	
1960	NOV	0	0		0		0		0			41332	
1960	DEC	0	0		0		0		0			41332	
1961	JAN	0	0		0		0		0			41332	
1961	FEB	0	0		0		0		0			41332	
1961	MAR	0	0		0		0		0			41332	
1961	APR	1940	0		1940		0		45687			32089	
1961	MAY	9910	0		0		9910		35777			32089	
1961	JUN	12500	0		0		12500		23277			32089	
1961	JUL	19250	0		0		19250		4027			32089	
1961	AUG	14420	0		0		14420		0			20319	
1961	SEP	5590	0		5590		0		0			6331	
1961 TOTAL		65410	0		9330		56080						
1961	OCT	1500	0		1500		0		632			16479	
1961	NOV	0	0		0		0		632			16479	
1961	DEC	0	0		0		0		632			16479	
1962	JAN	0	0		0		0		632			16479	
1962	FEB	0	0		0		0		632			16479	
1962	MAR	0	0		0		0		632			16479	
1962	APR	1770	0		1770		0		632			16479	
1962	MAY	9990	0		9990		0		632			16479	
1962	JUN	12600	0		12600		0		46826			32089	
1962	JUL	19640	0		3694		15946		30880			32089	
1962	AUG	15720	0		0		15720		15160			32089	
1962	SEP	9140	0		0		9140		6020			89921	
1962 TOTAL		70360	0		29554		40806						
1962	OCT	1990	0		1990		0		5443			81309	
1962	NOV	0	0		0		0		5443			81309	
1962	DEC	0	0		0		0		5443			81309	
1963	JAN	0	0		0		0		5443			81309	
1963	FEB	0	0		0		0		5443			81309	
1963	MAR	0	0		0		0		5443			81309	
1963	APR	1380	0		1380		0		5443			81309	
1963	MAY	9830	0		9830		0		5443			81309	
1963	JUN	12270	0		12270		0		46826			81309	
1963	JUL	20100	0		1067		19033		27793			32089	
1963	AUG	15510	0		0		15510		12283			32039	
1963	SEP	9180	0		1589		6591		5692			90429	
1963 TOTAL		69260	0		28126		41134						

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL STORAGE + FLCW	AMERICAN FALLS RES	PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	AC. FT.	AC. FT.	ACRE FEET
1963	CCT	2700	0	2700	0	80679
1963	NOV	0	0	0	0	80679
1963	DEC	0	0	0	0	80679
1964	JAN	0	0	0	0	80679
1964	FEB	0	0	0	0	80679
1964	MAR	0	0	0	0	80679
1964	APR	720	0	720	0	80679
1964	MAY	10080	0	10080	0	80679
1964	JUN	12190	0	12190	0	80679
1964	JUL	20190	0	7946	12244	32089
1964	AUG	16440	0	0	16440	32089
1964	SEP	8990	0	0	8990	89773
1964	TOTAL	71310	0	33636	37674	
1964	CCT	2620	0	2620	0	81253
1964	NOV	0	0	0	0	81253
1964	DEC	0	0	0	0	81253
1965	JAN	0	0	0	0	81253
1965	FEB	0	0	0	0	81253
1965	MAR	0	0	0	0	81253
1965	APR	1770	0	1770	0	81253
1965	MAY	10680	0	10680	0	81253
1965	JUN	13370	0	13370	0	81253
1965	JUL	19660	0	5303	14357	32089
1965	AUG	15450	0	0	15450	32089
1965	SEP	8060	0	0	8060	90425
1965	TOTAL	71610	0	33743	37867	
1965	CCT	3010	0	3010	0	87366
1965	NOV	0	0	0	0	87366
1965	DEC	0	0	0	0	87366
1966	JAN	0	0	0	0	87366
1966	FEB	0	0	0	0	87366
1966	MAR	0	0	0	0	32089
1966	APR	2530	0	2530	0	32089
1966	MAY	11240	0	0	11240	32089
1966	JUN	12500	0	0	12500	32089
1966	JUL	19080	0	0	19080	32089
1966	AUG	15460	0	0	15460	19117
1966	SEP	8320	0	0	8320	57100
1966	TOTAL	72140	0	5540	56600	



DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL STORAGE + FLOW	AMERICAN FALLS RES	PALISADE RESERVOIR
ACRE	FEET	ACRE	FEET	AC. FT.	AC. FT.	ACRE FEET
1966	OCT	2670	0	0	2670	54029
1966	NOV	0	0	0	0	54029
1966	DEC	0	0	0	0	54029
1967	JAN	0	0	0	0	54029
1967	FEB	0	0	0	0	54029
1967	MAR	0	0	0	0	54029
1967	APR	1820	0	1820	0	54029
1967	MAY	10270	0	10270	0	54029
1967	JUN	12560	0	12560	0	54029
1967	JUL	20030	0	5828	14202	32089
1967	AUG	16540	0	0	16540	32089
1967	SEP	9430	0	0	9430	88655
1967	TOTAL	73320	0	30478	42842	
1967	OCT	2540	0	2540	0	84658
1967	NOV	0	0	0	0	84658
1967	DEC	0	0	0	0	84658
1968	JAN	0	0	0	0	84658
1968	FEB	0	0	0	0	84658
1968	MAR	0	0	0	0	84658
1968	APR	1920	0	1920	0	84658
1968	MAY	11220	0	11220	0	84658
1968	JUN	13410	0	0	13410	32089
1968	JUL	20190	0	0	20190	32089
1968	AUG	13610	0	0	13610	31654
1968	SEP	7930	0	0	7930	78767
1968	TOTAL	70820	0	15680	55140	
1968	OCT	2350	0	2350	0	78683
1968	NOV	0	0	0	0	78683
1968	DEC	0	0	0	0	78683
1969	JAN	0	0	0	0	78683
1969	FEB	0	0	0	0	78683
1969	MAR	0	0	0	0	78683
1969	APR	2260	0	2260	0	78683
1969	MAY	11460	0	5828	5632	78683
1969	JUN	12940	0	0	12940	78683
1969	JUL	19230	0	0	19230	32089
1969	AUG	16070	0	0	16070	24110
1969	SEP	7930	0	0	7930	29817
1969	TOTAL	72240	0	10438	61802	

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	+ NATURAL FLOW	WATER SUPPLY STORAGE WATER	+ AMERICAN FALLS RES	AEB STORAGE (EOM) PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	+ AC. FT.	AC. FT.	+ ACRE FEET	ACRE FEET
1969	OCT	1790	0	1790	0	2886	90800
1969	NOV	0	0	0	0	2886	90800
1969	DEC	0	0	0	0	2886	90800
1970	JAN	0	0	0	0	2886	90800
1970	FEB	0	0	0	0	2886	90800
1970	MAR	0	0	0	0	2886	90800
1970	APR	1440	0	1440	0	2886	90800
1970	MAY	9910	0	9910	0	2886	90800
1970	JUN	12770	0	12770	0	2886	90800
1970	JUL	19340	0	0	19340	27486	32089
1970	AUG	16280	0	0	16280	11206	32089
1970	SEP	7290	0	6657	633	10573	76369
1970	TOTAL	68820	0	32567	36253		
1970	OCT	2030	0	2030	0	14073	90800
1970	NOV	0	0	0	0	14073	90800
1970	DEC	0	0	0	0	14073	90800
1971	JAN	0	0	0	0	14073	90800
1971	FEB	0	0	0	0	14073	90800
1971	MAR	0	0	0	0	14073	90800
1971	APR	1110	0	1110	0	14073	90800
1971	MAY	9490	0	9490	0	14073	90800
1971	JUN	12900	0	12900	0	14073	90800
1971	JUL	20320	0	7946	12374	34452	32089
1971	AUG	16780	0	0	16780	17572	32089
1971	SEP	8290	0	0	8290	9382	90238
1971	TOTAL	70920	0	33476	37444		
1971	OCT	1900	0	1900	0	11066	90800
1971	NOV	0	0	0	0	11066	90800
1971	DEC	0	0	0	0	11066	90800
1972	JAN	0	0	0	0	11066	90800
1972	FEB	0	0	0	0	11066	90800
1972	MAR	0	0	0	0	11066	90800
1972	APR	1540	0	1540	0	11066	90800
1972	MAY	10740	0	10740	0	11066	90800
1972	JUN	12940	0	12940	0	11066	90800
1972	JUL	20000	0	3710	16290	30536	32089
1972	AUG	15750	0	0	15750	14786	32089
1972	SEP	7600	0	2653	4947	9840	90110
1972	TOTAL	70470	0	33483	36987		

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION SHORTAGE	WATER SUPPLY		A&B STORAGE (EOM)	
				+ NATURAL + FLOW	STORAGE WATER	+ AMERICAN + FALLS RES	PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	+ AC. FT.	AC. FT.	+ ACRE FEET	ACRE FEET
1972	OCT	1660	0	1660	0	12047	90800
1972	NOV	0	0	0	0	12047	90800
1972	DEC	0	0	0	0	12047	90800
1973	JAN	0	0	0	0	12047	90800
1973	FEB	0	0	0	0	12047	90800
1973	MAR	0	0	0	0	12047	90800
1973	APR	1090	0	1090	0	12047	90800
1973	MAY	10580	0	6354	4226	42600	90800
1973	JUN	12960	0	0	12960	29640	32089
1973	JUL	19340	0	0	19340	10300	32089
1973	AUG	15260	0	0	15260	0	26471
1973	SEP	7560	0	3178	4382	0	57314
1973	TOTAL	68450	0	12282	56168		
1973	OCT	1830	0	1830	0	2002	90800
1973	NOV	0	0	0	0	2002	90800
1973	DEC	0	0	0	0	2002	90800
1974	JAN	0	0	0	0	2002	90800
1974	FEB	0	0	0	0	2002	90800
1974	MAR	0	0	0	0	2002	90800
1974	APR	1140	0	1140	0	2002	90800
1974	MAY	10870	0	10870	0	2002	90800
1974	JUN	13370	0	13370	0	2002	90800
1974	JUL	19290	0	5500	13790	33036	32089
1974	AUG	15240	0	0	15240	17796	32089
1974	SEP	7800	0	0	7800	9996	71850
1974	TOTAL	69540	0	32710	36830		
1974	OCT	2040	0	2040	0	15358	90800
1974	NOV	0	0	0	0	15358	90800
1974	DEC	0	0	0	0	15358	90800
1975	JAN	0	0	0	0	15358	90800
1975	FEB	0	0	0	0	15358	90800
1975	MAR	0	0	0	0	15358	90800
1975	APR	510	0	510	0	15358	90800
1975	MAY	5200	0	5200	0	15358	90800
1975	JUN	12760	0	12760	0	15358	90800
1975	JUL	20270	0	12182	8088	38738	32089
1975	AUG	16390	0	0	16390	22343	32089
1975	SEP	8920	0	0	8920	13423	84800
1975	TOTAL	66090	0	32692	33398		

DEMANDS REPRESENT A COMBINATION OF EXISTING AND NEW UNIT A LANDS

YEAR	MONTH	IRRIGATION DEMAND	IRRIGATION + SHORTAGE	WATER SUPPLY + NATURAL FLOW	STORAGE + WATER	A&B STORAGE (EOM) + AMERICAN FALLS RES	PALISADE RESERVOIR
		ACRE FEET	ACRE FEET	AC. FT.	AC. FT.	ACRE FEET	ACRE FEET
1975	OCT	1980	0	1980	0	12236	7727 6
1975	NOV	0	0	0	0	12236	7727 6
1975	DEC	0	0	0	0	12236	7727 6
1976	JAN	0	0	0	0	12236	7727 6
1976	FEB	0	0	0	0	12236	7727 6
1976	MAR	0	0	0	0	12236	7727 6
1976	APR	540	0	540	0	12236	7727 6
1976	MAY	10380	0	10380	0	12236	7727 6
1976	JUN	13970	0	13970	0	46826	3208 9
1976	JUL	20430	0	2643	17787	29039	3208 9
1976	AUG	15070	0	0	15070	13969	3208 9
1976	SEP	7390	0	4750	2640	11330	8896 6
1976 TOTAL		69760	0	34263	35497		
1976	OCT	1750	0	1750	0	12695	9080 0
1976	NOV	0	0	0	0	12695	9080 0
1976	DEC	0	0	0	0	12695	9080 0
1977	JAN	0	0	0	0	12695	9080 0
1977	FEB	0	0	0	0	12695	9080 0
1977	MAR	0	0	0	0	12695	9080 0
1977	APR	2510	0	2510	0	46826	3208 9
1977	MAY	9059	-2717	0	6342	40484	3208 9
1977	JUN	11589	-3476	0	8113	32371	3208 9
1977	JUL	16619	-4935	0	11634	20737	3208 9
1977	AUG	13329	-3998	0	9331	11406	3208 9
1977	SEP	5490	0	3162	2328	9078	3208 9
1977 TOTAL		60346	-15176	7422	37748		
1977	OCT	1030	0	1030	0	5759	2035 8
1977	NOV	0	0	0	0	5759	2035 8
1977	DEC	0	0	0	0	5759	2035 8
1978	JAN	0	0	0	0	5759	2035 8
1978	FEB	0	0	0	0	5759	2035 8
1978	MAR	0	0	0	0	5759	2035 8
1978	APR	720	0	720	0	5759	2035 8
1978	MAY	9640	0	2643	6997	5759	2035 8
1978	JUN	12810	0	12810	0	5759	2035 8
1978	JUL	18480	0	4761	13719	26110	3208 9
1978	AUG	15120	0	15120	0	26110	3208 9
1978	SEP	5280	0	5280	0	26110	9005 0
1978 TOTAL		63080	0	42364	20716		